XES-Z50

SERVICE MANUAL

US Model
Canadian Model

Ver 1.1 2001.09

• This set consists of the following units.

CHANGER UNIT
CONTROL UNIT
WIRELESS REMOTE COMMANDER (RM-X67)
ROTARY REMOTE COMMANDER (RM-X66)

Model Name Using Similar Mechanism	NEW
CD Mechanism Type	MG-110ES-132
Optical Pick-up Name	KSS-400A

SPECIFICATIONS

Tuner section

FM

Tuning range	87.5 - 108.0 MHz
Frequency response	30 - 15,000 Hz
Usable sensitivity	8 dBf
Signal-to-noise ratio	60 dB (stereo) 68 dB (monaural)
Harmonic distortion at 1 kHz	0.5% (stereo) 0.3% (monaural)

AM

Tuning range	530 - 1,710 kHz
Usable sensitivity	30 µV

CD Changer section

Signal-to-noise ratio 106 dB

Frequency response 5 - 20,000 Hz

Laser diode properties

Material: GaAIAs
Wavelength: 780 nm
Emission duration: Continuous
Laser output power: Less than 44.6 µW*

* This output is the value measured at a distance of 200 mm from the objective lens surface on the Optical Pick-up Block.

– Continued on next page –

DIGITAL REFERENCE SOUND SYSTEM

9-925-509-12
2001I0500-1
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Sony Corporation
e Vehicle Company
Shinagawa Tec Service Manual Production Group

SONY®

Digital pre-amplifier section

Frequency response (+0, –1 dB)
5 - 20,000 Hz

Signal-to-noise ratio 106 dB

Harmonic distortion at 1 kHz, 20 bit
0.002%

Dynamic range at 20 bit
100 dB

Channel separation at 1 kHz
100 dB

Maximum power output
8 V rms

Maximim power input (AUX analog audio)
1.2 Vrms

Sampling frequency (AUX digital audio)
44.1 kHz

Audio input	Analog (RCA-type) ×1 Digital (optical) ×1
Audio output	Analog (RCA-type) ×3

General

Power requirements	12 V DC car battery (negative ground)
Power consumption	Control unit: 0.7 A CD changer: 1.5 A
Mass	Control unit: 1.9 kg (4 lb 3 oz) CD changer: 6.5 kg (14 lb 5 oz)
Dimensions (w/h/d)	Control unit: 178 × 50 × 170 mm (7⅛ × 2 × 6¾ inches) CD changer: 318 × 106 × 259 mm (12⅝ × 4¼ × 10¼ inches)

Supplied accessories

Wireless remote (1)
Wired rotary remote (1)
Disc magazine (1)
SUM-3 batteries (2)
Case for holding the front panel and rotary remote (1)
Installation accessories (1 set)

Design and specifications are subject to change without notice.

Flexible Circuit Board Repairing

- Keep the temperature of the soldering iron around 270 ˚C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body. During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

Laser Diode Properites

- Material: GaAlAs
- Wavelength: 780 nm
- Emission Duration: continuous
- Laser Output Power: less than 44.6 µW*

  * This output is the value measured at a distance of 200 mm from the objective lens surface on the Optical Pick-up Block.

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

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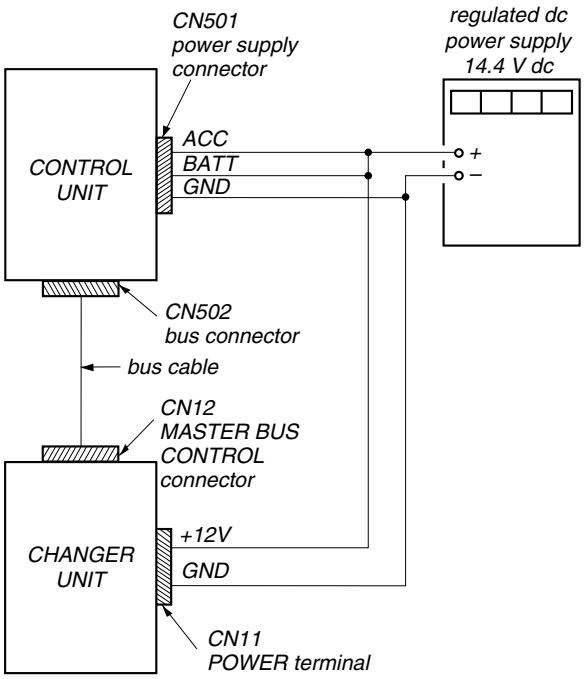
SECTION 1
SERVICING NOTES

1-1. CONNECTION AT REPAIR

In repairing this set, connect as follows.



1-2. FRONT PANEL SETTING

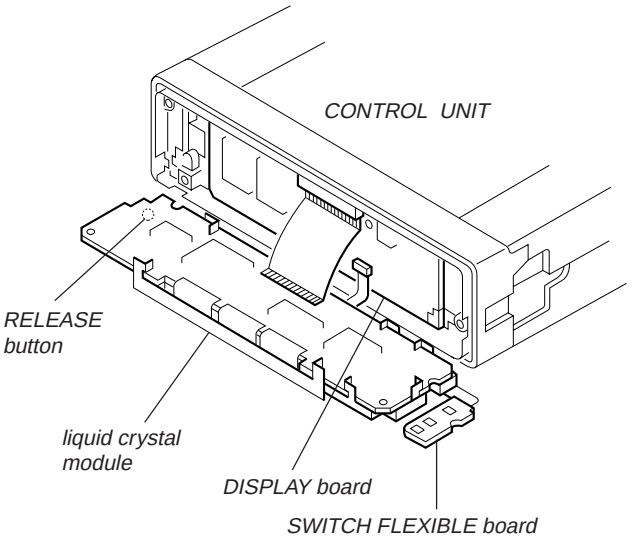
In repairing the front panel, make a setting through the procedure give below.

Notes:

1. A flat cable and a switch flexible board connected between liquid crystal module and display board are easily broken, thus requiring extreme care when handling.
2. As only the removal procedure is given here, see "3. DISASSEMBLY" for details.

Setting:

1. Remove the front panel from control unit.
2. Remove the front panel (ornament) assembly. At this time, take care not to break the switch flexible board connected to the display board.
3. Remove the switch flexible board from front panel (ornament) assembly.
4. Under this condition, attach the front panel to the control unit, and supply the power.
5. After completion of attachment, turn the power OFF once, and tilt the liquid crystal module toward the front as shown below.



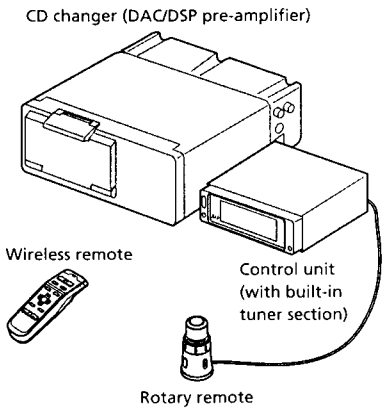
1-3. REMOVAL OF FRONT PANEL AT POWER OFF

Refer to "3. DISASSEMBLY" (page 42).

Overview

Overview of the System

This system consists of the following sections.



Useful tips

For details on connecting the XES-M50 Power Amplifier, XES-F50 Full-range Speaker, XES-H50 Ribbon Tweeter, XES-L50 Subwoofer, and the optional CD changer and MD changer, refer to the Installation/Connection Manual supplied with this system.

What is a CD TEXT disc?

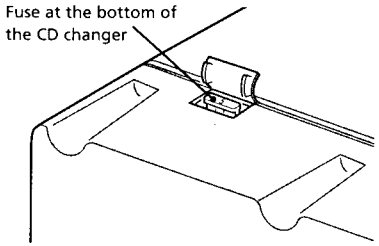
A CD TEXT disc is a music CD that also contains text data such as album title, track titles, and artist name. This text data is recorded in areas normally unused on conventional music CDs. Text data contained on the CD TEXT discs can be displayed in the XES-Z50.

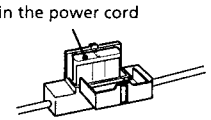
Precautions

Replacing fuses

When replacing a fuse, be sure the new fuse has the same power rating (amperage) as the old one. If you replace a burnt-out fuse either with a higher-rated fuse or with a wire, the system may be damaged or a fire may break out.

Fuses are located at the bottom of the CD changer and in the power cord.





Adjusting the volume

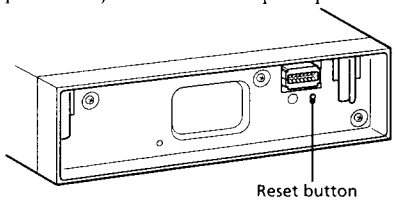
For your safety, set the volume low enough so that you can still hear the sounds in the street around you.

The display section

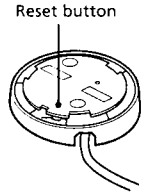
Under extremely hot or cold conditions, the display may become dim, but this is not a malfunction. The display will return to normal when the temperature becomes normal.

The reset button

After replacing the car battery, press the reset button in the control unit with a pointed object such as a ball-point pen.



Another reset button can be found on the rotary remote holder. When you cannot detach the display section because the system does not turn on, press the reset button on the rotary remote holder.



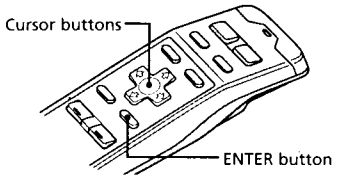
Precautions

- If your car was parked in direct sunlight resulting in a considerable rise in temperature inside the car, allow the system to cool off before operating it.
- If no power is being supplied to the system, check the connections first. If everything is in order, check the fuse.
- Avoid installing the CD changer, wireless remote, and wired remote in places:
  - — subject to temperatures exceeding 131°F.
  - — subject to direct sunlight.
  - — near heat sources (such as heaters).
  - — exposed to rain or moisture.
  - — exposed to excessive dust or dirt.
  - — subject to excessive vibration.

This section is extracted from instruction manual.

Initial Settings

Do the following initial settings (1) before you operate the system for the first time, (2) after replacing the car battery, or (3) after resetting the system.



Note
You can specify the ACC position and cross-over network settings only in the initial setting procedure. To change these settings afterwards, press the reset button and repeat the procedure.

1 Press the reset button (see page 7).

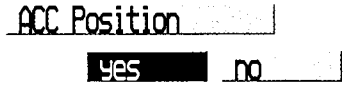
The Contrast indication appears.

Press ← or →. The contrast is adjustable in 15 steps.

2 Press ENTER.

The ACC Position indication appears.

Press ← or →. Select "yes" if your car's ignition switch has an ACC position; select "no" if your car's ignition switch has no ACC position.



Note
If you have a 3-way speaker system, selecting "F/R/SUB-W" may cause damage to your tweeter.

Useful tips
To change any of the initial settings at this time, press the cursor buttons to select the item you want to change.

3 Press ENTER.

The Cross-over Network (output mode) indication appears.

Press ← or → to select "3way" or "F (front)/R (rear)/SUB-W (sub-woofer)" depending on your speaker system.

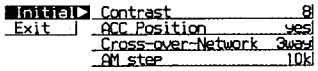
4 Press ENTER.

AM step indication appears.

Press ← or →. Select "10k" if you're using your system in North or South America, the Hawaiian Islands, or Guam; select "9k" for all other countries.

5 Press ENTER.

The Initial indication appears.



6 To complete the initial settings, press ↓ to select "Exit," then press ENTER.

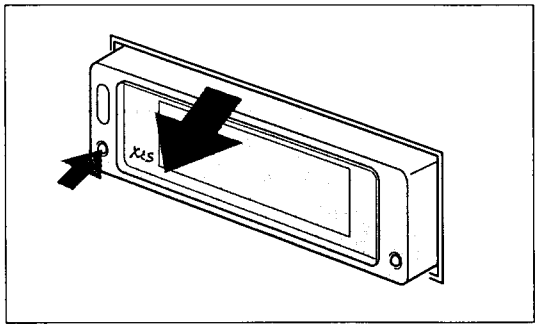
Attaching/Detaching the Electrically Operated Display Section

The display section can be detached from the control unit as a safety measure against theft.

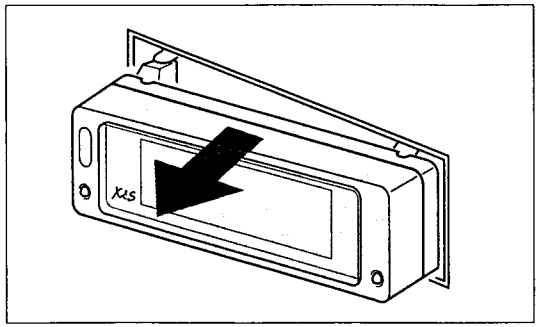
Detaching the Display Section

1 Press RELEASE at the bottom left of the display section.

The system turns off and the left side of the display section pops out.



2 Grasp the left side of the display section and pull it out.



Note

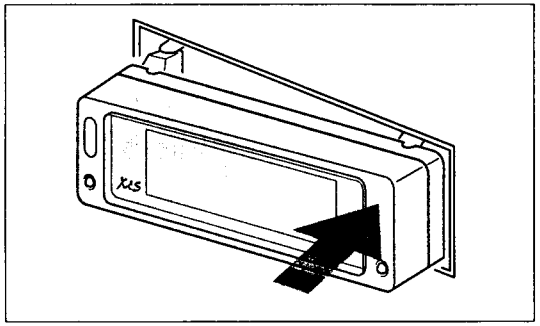
Do not touch the connector at the rear of the display section. After you have detached the display section, keep it in a supplied case.

If you do not remove the display section at this time, the display section will automatically return to its original position so that it doesn't fall off.

Do not press the RELEASE button at this time. If you do, the display section will fall off.

Attaching the Display Section

1 Align the right side of the display section with the control unit.



2 Press the left side against the display section and push in lightly.

An automatic, electrically operated mechanism in the control unit catches the display section.

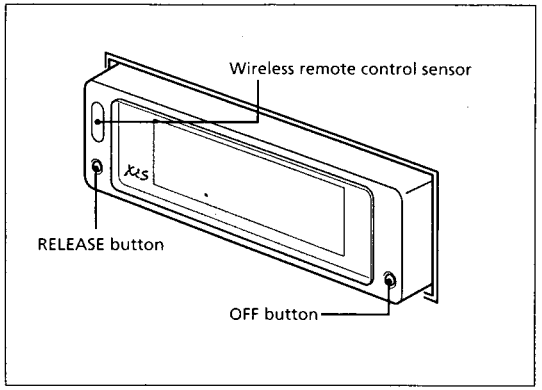
Procedure when the control panel is installed on the dashboard, etc.

Use the same procedures; i.e., detach it by pressing the RELEASE button and attach it by pressing it into the display holder until it clicks and is caught by the display holder.

Note

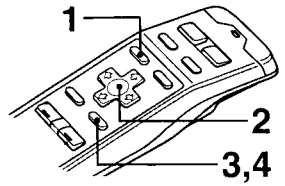
The front part of the display section is made of glass. Do not drop or press down the display section with excessive force.

Name of parts



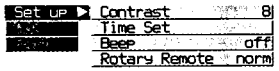
Setting the Clock

Set the clock with the wireless remote.
Turn the system on before setting the clock.



1 Press MENU.

The menu display appears.



2 Press ↓ to select "Set up" and press → to move to the sub menu to select "Time Set."

3 Press ENTER.

The Time Set indication appears.

Press ↑ or ↓ to set the hour.

Then press → to move to minutes and press ↑ or ↓ to set the minutes.

Pressing ↓ lowers the number and ↑ raises the number.

Useful tips
You can press the MENU button or BACK button instead of the ENTER button to set a value.

4 After setting the time, press ENTER.

The time is stored and the menu display reappears.

To return to the normal display

Press the MENU button.

To display the current time during operation

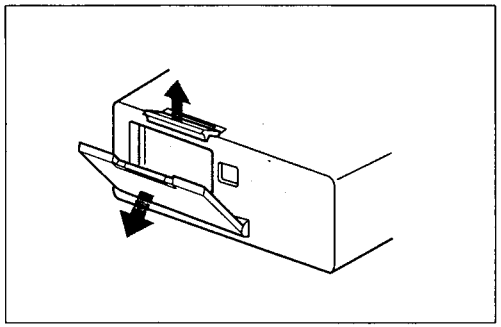
The current time can be set to appear in the upper right corner of the display (except when a menu is displayed). For details, see "Set up Menu" on page 47.

Inserting CDs

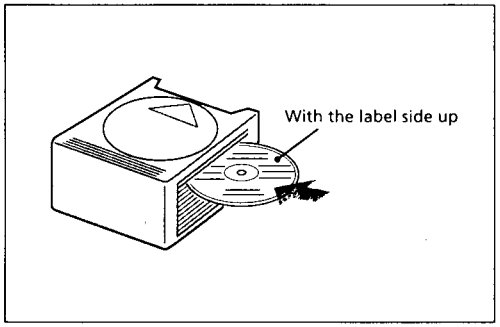
The disc magazine inside the CD changer can hold up to 10 discs.

Note
To play an 8-cm CD (single CD), use the optional CSA-8 Sony Single CD Adaptor. When using the single-CD adaptor, attach the three claws to the CD securely. Note that if you use an adaptor made by another company, the CD changer may not operate properly. If you play a single CD without the adaptor, the CD changer may be damaged.

1 Lift up the lock lever and open the door of the CD changer.

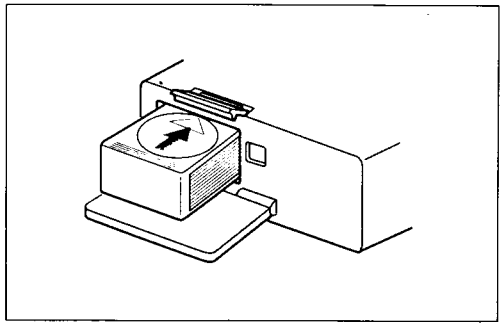


2 Insert a CD in each slot of the disc magazine.

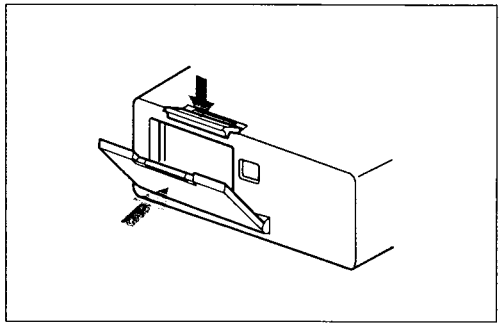


3 **Insert the disc magazine into the CD changer in the direction of the arrow until it clicks in.**

The CD changer begins verifying the CDs.



4 **Close the door and lock the CD changer securely.**



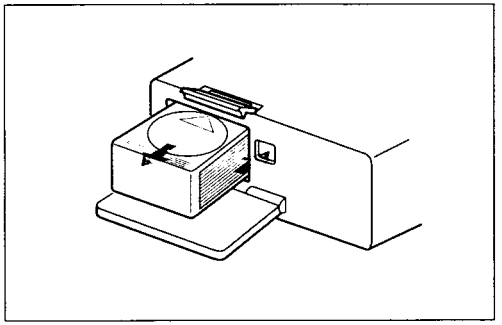
Useful tips

The CD changer verifies all the CDs one after another whenever the disc magazine is inserted. Playing a CD during this verifying operation is possible. Note, however, that disc titles are not displayed until they have been verified by the CD changer.

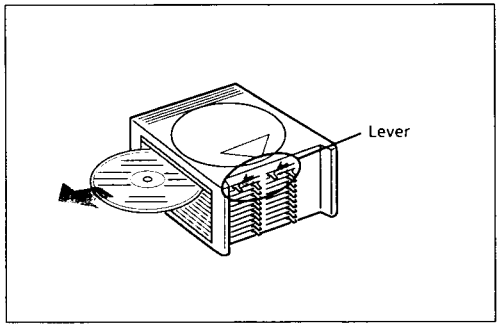
Removing CDs

1 **Press ⏏.**

The disc magazine comes out.



2 **Slide the lever of the disc magazine.**

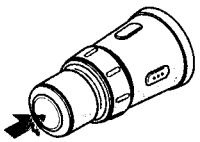


Using the Rotary Remote

You can use the rotary remote for all operations except menu operations.

Basic Operations

SOURCE button

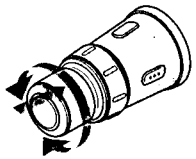


Press the button.

The system turns on. Each time you press the button, the program source switches as follows: CD → MD (only when an MD changer is connected) → AUX (only when AUX settings have been done: see page 49) → FM1 → FM2 → AM → CD. When an external component is selected, it will be indicated as an auxiliary (AUX) component.

To turn off the system, press the OFF button on the side of the rotary remote (see page 19).

VOL/DISC/PRESET control



Rotate the control.

You can adjust the volume.

Push in and rotate the control.

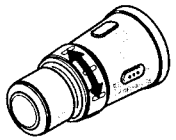
You can change the disc inside of the changer when CD or MD is selected.

You can change the preset station in the tuner when FM1, FM2, or AM is selected.

Push in and release the control.

The display section shows the list of discs or preset stations for a few seconds, then reverts to the previous display.

AMS/SEEK control



Rotate and release the control.

You can locate the beginning of tracks when CD or MD is selected.

When FM1, FM2, or AM is selected, the tuner begins searching for a station, then stops when it detects one.

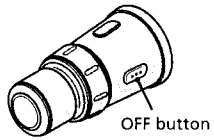
Keep the control rotated.

You can locate a specific point on a track when CD or MD is selected. Playback at normal speed resumes when you release the control.

When FM1, FM2, or AM is selected, manual tuning becomes possible.

Other Operations

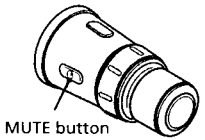
OFF button



Press this button to turn off the system.

To turn on the system again, press the SOURCE button.

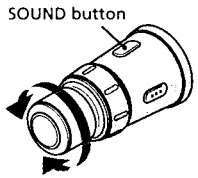
MUTE button



Press the button to mute the sound.

To cancel the mute, press the button again.

SOUND button



Press the button to select sound characteristics.

Each press of the button changes the display as follows: PEQ (Parametric EQualizer) indication → CNW (Cross-over NetWork) indication → previous display.

While the PEQ or CNW indication appears, rotate the VOL/DISC/PRESET control to select 1 of 10 preset patterns.

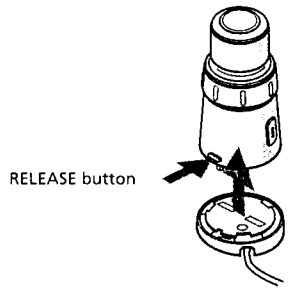
The previous display reappears when no operation has been done for several seconds.

To switch the direction of rotation for rotary remote

See "Set up Menu" on page 47.

To detach the rotary remote

You can detach the rotary remote as a safety measure against theft.
Turn the remote clockwise while pressing down the RELEASE button.



Using the Wireless Remote

Use the wireless remote to make the various menu settings. For your safety, system operations with the wireless remote should be done by a passenger. If you (the driver) want to use the wireless remote, park your car in a safe location first before performing any operations.

OFF button
Press to turn off the system.

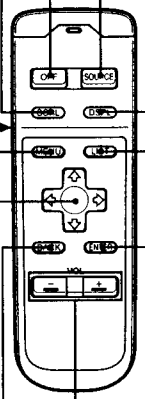
SCRL button
Press to scroll the track or disc title when playing a CD TEXT disc or an MD.

LIGHT button
Press to light up the button indications on the wireless remote. The indications go off after a few seconds.

MENU button
Press to switch to a menu display. The menu which appears depends on the current program source. To return to the previous display, press the button again.

Cursor buttons
During the menu display appears, press to move the cursor in a menu display.
When CD or MD is selected, press ↑ or ↓ to change the disc and ← and → to locate a track.
When FM1, FM2, or AM is selected, press ↑ or ↓ to select a preset station, or ← and → to perform automatic tuning.

BACK button
Press to return to the normal display during a menu operation.



SOURCE button
Press repeatedly to switch to: CD → MD (only when an MD changer is connected) → AUX (only when AUX settings have been done) → FM1 → FM2 → AM → CD.

DSPL (display)/button
When playing a CD or MD, press to display the disc title or track title. When the current disc or track has no title, "No Disc (or Track) Name" appears in the display.

LIST button
When CD or MD is selected, press to display DISC NAME LIST.
While the list appears in the display, press again to display TRACK NAME LIST of the current disc (see page 34).
When FM1, FM2, or AM is selected, press to display PRESET NAME LIST.
To change the current selection, use the cursor buttons to select another disc (track) or station, then press the ENTER button.

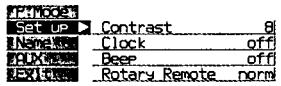
ENTER button
Press to carry out the selected function.

VOL buttons
Press + or – to adjust the volume.

Menu Display/Lists

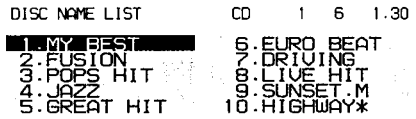
The following menu and lists appear in the display section when you press the MENU or LIST button on the wireless remote.

Menu display (appears when you press the MENU button)



Press MENU to make various settings and adjustments. Press the cursor buttons to select the item and its setting, then press the ENTER button.

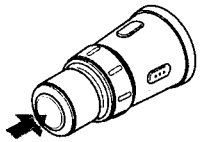
Lists (appears when you press the LIST button)



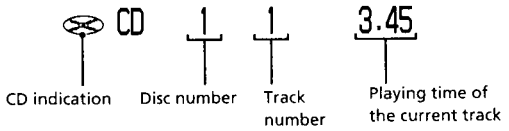
Press LIST to display DISC NAME LIST or TRACK NAME LIST when CD or MD is selected. The PRESET NAME LIST will appear when FM1, FM2, or AM is selected. When DISC NAME LIST or PRESET NAME LIST appears in the display, press the cursor buttons to select the disc or radio station you want to listen to and press the ENTER button.
To resume previous display without changing the setting, press the LIST button again.

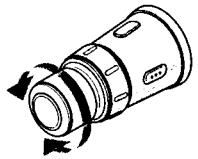
Listening to a CD

Before listening to a CD, insert one or more CDs into the disc magazine, then load the disc magazine into the CD changer (see page 15).



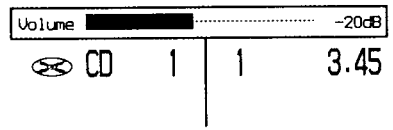
1 Press SOURCE repeatedly to select "CD."

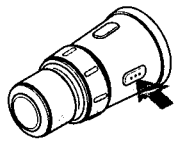




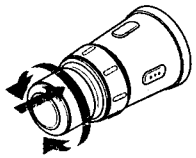
2 Rotate VOL/DISC/PRESET to adjust the volume.

Turn the control clockwise to increase the volume; turn it counterclockwise to decrease the volume.





3 Press OFF to turn off the system.



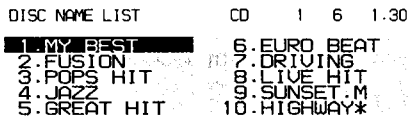
To Select the Disc to Be Played

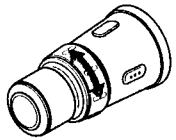
Push in and rotate VOL/DISC/PRESET.

The system changes to the next or previous disc. If you keep the control rotated, the discs will continue to change.

Push in and release the control to display DISC NAME LIST.

For details on naming a disc, see "Labeling a CD" on page 30.

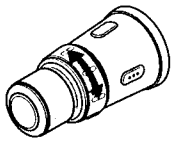




To Locate a Track

Rotate, then release AMS/SEEK.

The system locates the next or previous track.



To Locate a Specific Point on a Track

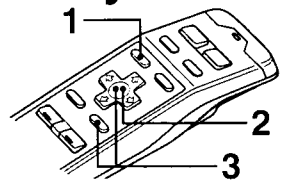
Keep AMS/SEEK rotated.

The system plays the track at high speed. When you reach the point you want, release the control.

Playing Tracks Repeatedly

(Repeat Play)

The Repeat Play function allows you to play back a track, a disc, or all the discs in the CD changer repeatedly.

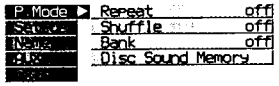


Useful tips

To return to previous steps (one at a time)
Press the ← button.

To return to the normal display
Press the MENU button.

1 While playing a CD, press MENU.



2 Select "P.Mode" and press ➡ to move to the sub menu, then select "Repeat" using ↑ or ↓.

3 Press ➡ then ↑ or ↓ to select the repeat mode, then press ENTER.

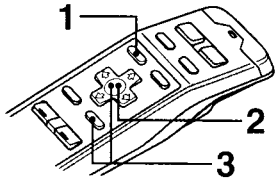
The selected repeat mode appears to the right of the "Repeat" in the display.

Indication	Operation
1:1track	Repeats the current track only
2:disc	Repeats all tracks on the current disc
3:changer	Repeats all the discs in the current CD changer (in case one or more optional CD changers are connected)
off	Normal playback

Playing Tracks in Random Order

(Shuffle Play)

Shuffle Play plays back all tracks on the current disc or all discs in the CD changer in random order.

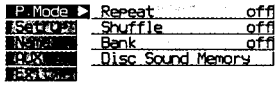


Useful tips

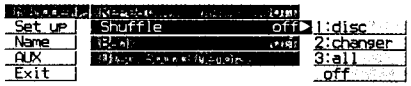
To return to previous steps (one at a time)
Press the ← button.

To return to the normal display
Press the MENU button.

1 While playing a CD, press MENU.



2 Select "P.Mode" and press → to move to the sub menu, then select "Shuffle" using ↑ or ↓.



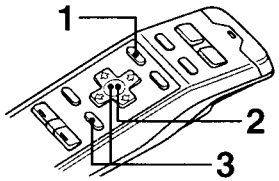
3 Press → then ↑ or ↓ to select the shuffle mode item, then press ENTER.

The selected item appears to the right of the "Shuffle" in the display.

Indication	Operation
1:disc	Plays all the tracks on the current disc in random order
2:changer	Plays all the discs in the current CD changer in random order
3:all	Plays all the discs in all the CD changers in random order (in case one or more optional CD changers are connected)
off	Normal playback

Selecting Specific Tracks for Playback (Bank)

If you have labeled the disc (see page 30), the Bank function allows you to skip certain tracks and play only the tracks you want.



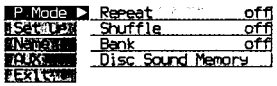
Useful tips

To return to previous steps (one at a time)
Press the ← button.

To return to the normal display
Press the MENU button.

Note
You cannot use the Bank function for discs that have not been labeled using the Disc Memo function. Be sure to label the disc in advance.

1 While playing a CD, press MENU.



2 Select "P.Mode" and press → to move to the sub menu, then select "Bank" using ↑ or ↓.

3 Press → then ↑ or ↓ to select the bank mode, then press ENTER.

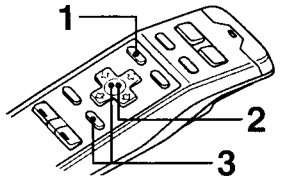
The selected bank mode appears to the right of the "Bank" in the display.

Indication	Operation
on	Plays all tracks set to "Play"
inverse	Plays all tracks set to "Skip"
off	Normal playback
edit	Sets tracks on the current disc to "Play" or "Skip."

To set tracks to "Play" or "Skip"

Select "edit" in Step 3 and press the ↑ or ↓ button to select "Play" or "Skip" for a track. To move to the next track, press the → button.
Note that only tracks 1 to 24 on a disc can be set.
To complete the setting procedure, press the ENTER or BACK button.

Setting Sound Effects for Each CD/MD



(Disc Sound Memory)

You can select and memorize particular sound effects for up to 110 discs (CDs or MDs).

Note
To use this function, select the sound effect in advance (see pages 51 and 52).

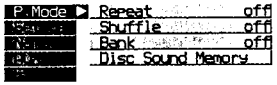
Useful tips

To return to previous steps (one at a time)
Press the ← button.

To return to the normal display
Press the MENU button.

To see the current sound effect setting
Press the SOUND button on the rotary remote.

1 While playing a CD or MD, press MENU.



2 Select "P.Mode" and press → to move to the sub menu, then select "Disc Sound Memory" using ↑ or ↓.

3 Press → then ↑ or ↓ to select "enter," then press ENTER.

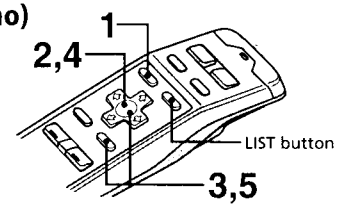
The sound effects currently specified by PEQ and CNW displays are set.

To clear all sound effects on the disc

Select "delete" in Step 3 above and press the ENTER button.

Labeling a CD (Disc Memo)

You can record a title of up to 8 characters for each disc. The disc title appears in the display whenever you insert the disc and play it. Up to 110 disc titles can be stored in memory.



Useful tips

Hold down the LIST button for 2 seconds or more to display the Disc Memo Write indication directly.

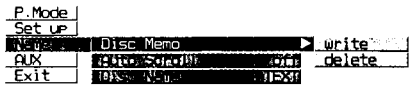
Useful tips

To return to previous steps (one at a time)
Press the ← button.

To return to the normal display
Press the MENU button.

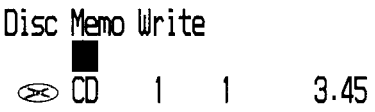
1 While playing a CD, press MENU.

2 Select "Name" and press → to move to the sub menu, then select "Disc Memo" using ↑ or ↓.



3 Press → then ↑ or ↓ to select "write," then press ENTER.

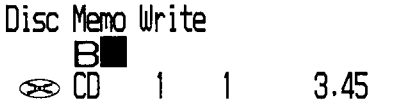
Disc Memo Write indication appears.



4 Press ↑ or ↓ until the character you want to enter appears, then press →.

Each press of the ↑ button selects the next character in the order shown below. (Press the ↓ button to move backwards.)

A → B → C → ...Z → 0 → 1 → 2 → ...9 → + → − → * → / → \ → > → < → . → (space)

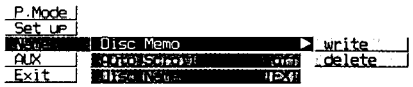


5 Repeat Step 4 until you have entered the entire title, then press ENTER.

Erasing a Disc Title

1 While playing a CD, press MENU.

2 Select "Name" and press ➡ to move to the sub menu, then select "Disc Memo" using ⬆ or ⬇.



3 Press ➡, then ⬆ or ⬇ to select "delete", then press ENTER.

The Disc Memo Delete indication appears.

4 Press ⬆ or ⬇ to select the disc title you want to erase.

5 Hold down ENTER for 2 seconds or more.

The selected disc title is erased.

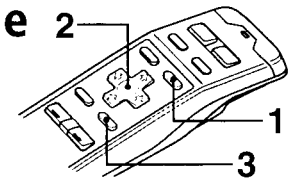
To quit the Disc Memo Delete function.

Press the BACK button.

Note

In Step 4, all the disc titles stored in the CD changer's memory appear in the order they were entered. The last title entered will therefore appear at the end.

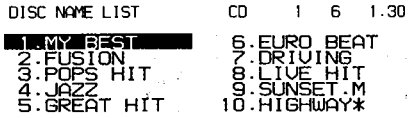
Locating a Disc by Title



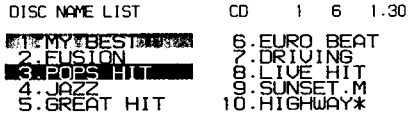
Use this function to locate a disc by its title. To add titles to discs, see page 30.

1 Press LIST.

DISC NAME LIST appears.

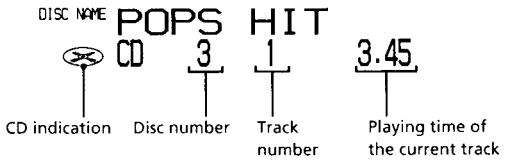


2 Press ⬆, ⬇, ➡, or ⬅ to select the disc.



3 Press ENTER.

Playback starts from the first track of the disc.



Useful tips

To cancel the selection

Press the LIST button twice or the BACK button once.

Note

The following indications appear in DISC NAME LIST.

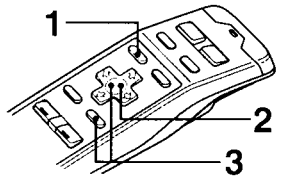
- "No Disc" : There is no disc in given disc magazine slot.
- "********": The disc is not labeled.
- "?": The system has not verified the disc information.

On TRACK NAME LIST

If you press the LIST button again in Step 1, TRACK NAME LIST appears. This list displays track names contained on CD TEXT discs and MDs with labeled tracks. Since this system does not support track labeling, when playing non-CD TEXT discs or MDs with unlabeled tracks, "********" appears instead of the track title in the TRACK NAME LIST.

Viewing CD TEXT Information

You can view text information contained on a CD TEXT disc during playback.



What is a CD TEXT disc?
A CD TEXT disc is a music CD that also contains text data such as album title, track titles, and artist name. This text data is recorded in areas normally unused on conventional music CDs. Text data contained on the CD TEXT discs can be displayed in the XES-Z50.

When playing a CD TEXT disc

Each time you press the DSPL button, the displayed information changes as follows: disc title/artist name* → track name

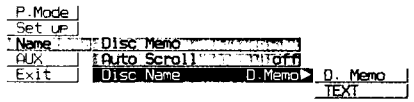
* The artist name appears automatically after the disc name.

Selecting the Disc Title Display

When playing CD TEXT discs that have been labeled using the Disc Memo function (see page 30), you can specify that disc titles be displayed whenever you press the DSPL or LIST button.

1 While playing a CD, press MENU.

2 Select "Name," press → to move to the sub menu, then select "Disc Name" using ↑ or ↓.



3 Press →, then ↑ or ↓ to select "D.Memo" or "TEXT," then ENTER.

Indication	Operation
D.Memo	Displays disc titles entered by the Disc Memo function
TEXT	Displays CD TEXT information

Scrolling Titles Automatically

When playing CD TEXT discs or MDs using an optional MD changer, the track or disc title appear automatically whenever a new disc or track is played. Follow the procedure below to specify the automatic scrolling of titles of more than 10 characters.

1 While playing a CD, press MENU.

2 Select "Name," press → to move to the sub menu, then select "Auto Scroll" using ↑ or ↓.

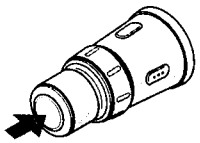
3 Press →, then ↑ or ↓ to select "on," then ENTER.

To cancel the scrolling of titles

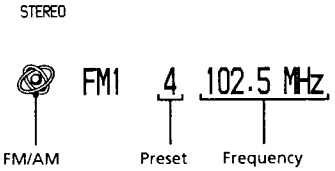
Select "off" in Step 3 and press the ENTER button.

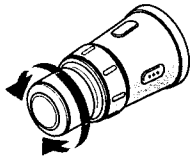
Listening to Radio

Before using the radio, you can store your favorite radio stations in the system's memory for instant tuning at a later time (see "Presetting Radio Stations" on page 38).



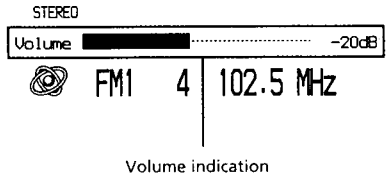
1 Press SOURCE repeatedly to select FM1, FM2, or AM.

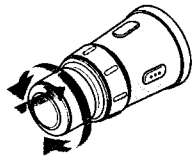




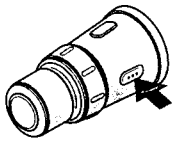
2 Rotate VOL/DISC/PRESET to adjust the volume.

Turn the control clockwise to increase the volume; turn it counterclockwise to decrease the volume.





3 To change the preset station, push in and rotate VOL/DISC/PRESET.

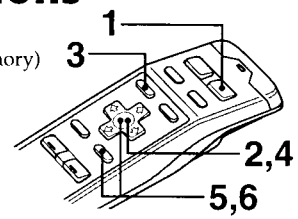


4 Press OFF to turn off the system.

Presetting Radio Stations

There are two ways to preset radio stations:
- Selecting the station frequency (Manual Preset Memory)
- Selecting Stations with the Strongest Signal (BTM*)

* Best Tuning Memory



Useful tips

To return to previous steps (one at a time)
Press the ← button.

To return to the normal display
Press the MENU button.

Useful tips
Keep the AMS/SEEK control rotated on the rotary remote to continue searching, then release the control when the frequency you want appears.

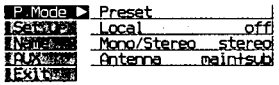
Note
If you selected AM in Step 1, "Mono/Stereo" and "Antenna" sub menu will not appear in the display.

Specifying the Station Frequency (Manual Preset Memory)

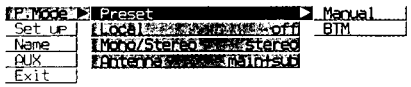
1 Press SOURCE repeatedly to select FM1, FM2, or AM.

2 Hold down ← or → until the frequency you want appears in the display, then release the button.

3 Press MENU.

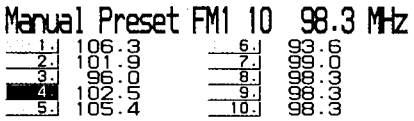


4 Select "P.Mode"and press → to move to the sub menu, then select "Preset" using ↑ or ↓.



Note
If you set a new frequency to a preset station number that has already been assigned a frequency, the new frequency replaces the old frequency.

5 Press →, then ↑ or ↓ to select "Manual," then ENTER.



6 Press ↑, ↓, →, or ← to select the preset station number to which the frequency will be stored (the selected preset station number is highlighted), then press ENTER.

You can preset up to 20 FM stations (10 stations in FM1 and 2 each) and up to 10 AM stations.

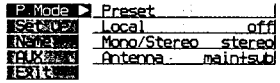
Useful tips
You can start Automatic Tuning by momentarily rotating the AMS/SEEK control on the rotary remote, then releasing it.

To quit the Manual Preset Memory function
Press the BACK button.

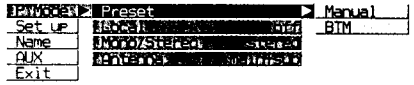
To receive a station automatically (Automatic Tuning)
Press and release the ← or → button.
"Seek Up" or "Seek Down" appears until the system detects a station.

Selecting Stations With the Strongest Signals (BTM)

1 **While listening to an FM or AM broadcast, press MENU.**



2 **Select "P.Mode," press ➡ to move to the sub menu, then select "Preset" using ⬆ or ⬇.**



3 **Press ➡, then ⬆ or ⬇ to select "BTM," then ENTER.**

The Best Tuning Memory function is activated.

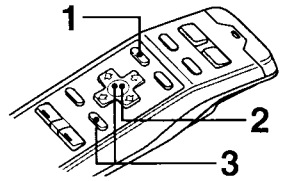
What is the BTM (Best Tuning Memory) function?

The BTM is a function that selects the radio stations with the strongest signals and automatically sets them to preset station numbers. The BTM function starts tuning in stations from the lowest frequency on the band (FM or AM). When a station is found, the system assigns the frequency to the currently selected preset station number. When preset numbers are not displayed, the system assigns frequencies starting with preset station 1.
Even after the system has assigned frequencies to all the preset station numbers, the system continues tuning. If stronger signals are found, the system replaces the current preset stations with the stronger frequencies. Finally, the system sorts the stations in ascending order by frequency.

Note
If the radio can only tune in a few stations or only weak frequencies, the BTM function may not assign frequencies to all the preset station numbers.

Specifying Monaural/Stereo Mode

If the FM stereo reception is poor, you can select "Mono" to improve the sound.

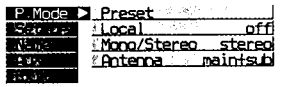


Useful tips

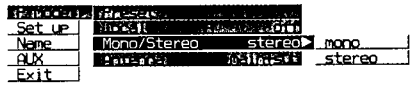
To return to previous steps (one at a time)
Press the ⬅ button.

To return to the normal display
Press the MENU button.

1 **While listening to an FM broadcast, press MENU.**



2 **Select "P.Mode," press ➡ to move to the sub menu, then select "Mono/Stereo" using ⬆ or ⬇.**



3 **Press ➡, then ⬆ or ⬇ to select "Mono," then ENTER.**

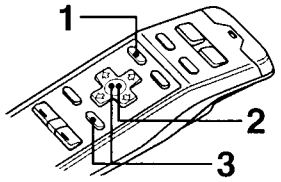
The selected FM mode appears to the right of "Mono/Stereo" in the display.

To receive FM broadcast using two FM antennas (FM Diversity function)

While listening to an FM broadcast, press the MENU button and set Antenna mode to "Main+Sub."

Receiving Only the Strongest Signals (Local on/off)

The Automatic Tuning function may stop frequently when there are many radio stations in the area. If this happens, you can reduce the sensitivity of the tuner so that only the strongest signals are tuned in.

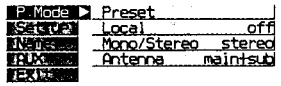


Useful tips

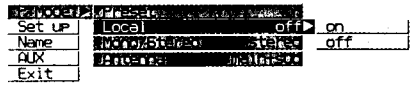
To return to previous steps (one at a time)
Press the ← button.

To return to the normal display
Press the MENU button.

1 **While listening to an FM or AM broadcast, press MENU.**



2 **Select "P.Mode," then press ➡ to move to the sub menu, then select "Local" using ↑ or ↓.**

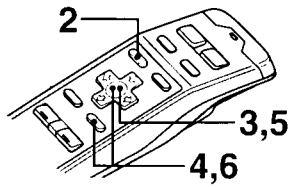


3 **Press ➡, then ↑ or ↓ to select "on," then ENTER.**

The selected mode appears to the right of "Local" in the display.

Labeling Radio Stations (Station Memo)

You can add a title of up to 8 characters to each station. The station name appears in the display whenever the station is selected. Up to 44 station names can be stored in memory.



Useful tips

Hold down the LIST button for more than 2 seconds to display the Disc Memory Delete indication directly.

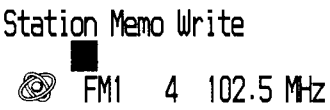
1 **Tune in the station you want to label.**

2 **Press MENU.**

3 **Select "Name," press ➡ to move to the sub menu, then select "Station Memo" using ↑ or ↓.**

4 **Press ➡, then ↑ or ↓ to select "write," then ENTER.**

The Station Memo Write indication appears.



Useful tips

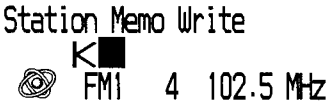
To return to previous steps (one at a time)
Press the ← button.

To return to the normal display
Press the MENU button.

5 Press ↑ or ↓ until the character you want to input appears and press →.

Each press of the ↑ button selects the next character in the order shown below. (Press the ↓ button to move backwards.)

A → B → C → ...Z → 0 → 1 → 2 → ...9 → + → - → * → / → \ → > → < → . → (space)



6 Repeat Step 5 until you have entered the entire name, then press ENTER.

Erasing a Station Name

1 While listening to FM or AM broadcast, press MENU.

2 Select "Name", press → to move to the sub menu, then select "Station Memo" using ↑ or ↓.

3 Press →, then ↑ or ↓ to select "delete," then ENTER.

The Station Memo Delete indication appears.

4 Press ↑ or ↓ to select the station name you want to erase.

5 Hold down ENTER for more than 2 seconds.

The selected station name is erased.

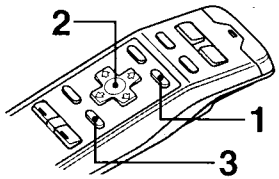
Note
In Step 4, all the station names stored in memory appear in the order they were entered. The last station name entered will therefore appear at the end.

To quit the Station Memo Delete function

Press the BACK button.

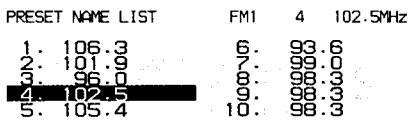
Selecting a Station by Name

You can use this function to select a station by the name that has been stored in memory for it.



1 Press LIST.

PRESET NAME LIST appears.



2 Press ↑, ↓, →, or ← to select the station.

3 Press ENTER.

To select a station using the rotary commander

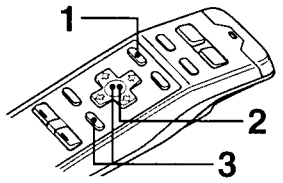
Push in and release the VOL/DISC/PRESET control to display PRESET NAME LIST.
Push and rotate the control to select the station from the list. After about 5 seconds, the normal display reappears.

Useful tips

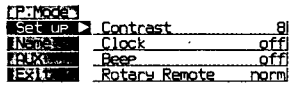
To cancel the selection
Press the LIST button.

Set up Menu

Use the Set up menu to perform additional settings, including Contrast, Clock, Beep, and Rotary Remote.

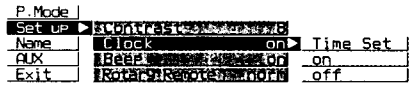


1 Press MENU and select "Set up."



2 Press → to move to the sub menu, then select the setting using ↑ or ↓.

The current setting appears to the right of the sub menu.



3 Change the setting and press ENTER.

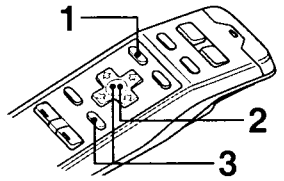
The new setting appears to the right of the sub menu.

Sub menus and the method for changing their settings are explained in the table on the next page.

Sub Menu	Explanation and Settings
Contrast	Selects 1 of 15 contrast levels for the display. Select "Contrast," then press the ENTER button. You can change the current setting by using the ← or → button. Press the ENTER button again to change the setting.
Clock	Select "on" to display the current time in the upper-right corner of the display at all times. If you select "off," the time is displayed only when the system is turned off. Select "Time Set" to set the clock (see page 13).
Beep	Specifies whether a beep sounds when an operation button is pressed.
Rotary Remote	Reverses the rotational direction of the rotary remote for controlling operations. Select "normal" for increasing volume, frequency, track numbers, etc. by rotating the remote clockwise; select "reverse" for increasing the same parameters by rotating the remote counterclockwise.

AUX Menu

When an external device is connected, use the AUX menu to make settings for the device.



1 Press MENU and select "Set up."

2 Press → to move to the sub menu, then select the item you want to set using ↑ or ↓.

The current sub menu setting appears to the right of the item.

3 Change the setting and press ENTER.

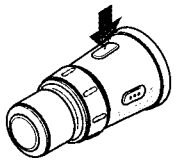
The new setting appears to the right of the item.

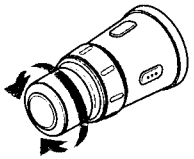
For an explanation of the sub menus, see the table on next page.

Sub menu	Explanation
Digital	Set to "on" when a Sony product that dose not support the audio bus connection or a non-Sony component (e.g., a CD or MD player) is connected to the digital input connector of the system. When set to "on," the "AUX Digital Audio" indication appears when you press the SOURCE button on the rotary remote or the wireless remote.
Analog	Set to "on" when a Sony product that does not support the audio bus connection or a non-Sony component (e.g., a CD or MD player) is connected to the analog input connectors of the system. When set to "on," the "AUX Analog Audio" indication appears when you press the SOURCE button on the rotary remote or the wireless remote.
GND floating	Selects the ground setting when "Analog" is set to "on." When set to "off," the control panel and the CD changer/pre-amplifier share a common ground; when set to "on," they are grounded separately.
Remote in	When the AMP REM connector of an external component is connected to the REM IN (AUX) connector of the system, the program source automatically switches to AUX when the connected component is turned on. When both the "Digital" and "Analog" parameters are set to "on," set this item to "digital" or "analog" to specify the source signal input connector (external component) when a control signal is detected at the REM IN (AUX) connector. To switch to the other program source, press the SOURCE button on the rotary remote or the wireless remote.

Selecting the Parametric Equalizer Pattern

Useful tips
To change the contents of the parametric equalizer patterns preset by the Sony dealer, consult your Sony dealer.





You can use the built-in parametric equalizer to customize the sound characteristics to suit the acoustics of your car by adjusting the median frequency, level, and slope (Q, or the extent of each characteristic) of each band.
You can select a parametric equalizer pattern for each program source from 10 that are included in the system's memory.

1 Press SOUND on the rotary remote to display the Parametric EQ list.

Each press of the button changes the display as follows: Parametric EQ list → Cross-over Network list → previous display.

2 With the list displayed, rotate VOL/DISC/PRESET on the rotary remote to select a preset pattern.

After appearing for 10 seconds, the list is replaced by the normal display.

Source sound memory

The parametric equalizer pattern is memorized for each program source, and is activated whenever you select that source thereafter, even after switching to another program source or turning the power off, then on again.

Selecting the Cross-over Network Pattern

Useful tips
To change the contents of the cross-over network patterns preset by the Sony dealer, consult your Sony dealer.

Your system comes with 10 cross-over network patterns set in memory.

1 Press SOUND on the rotary remote twice to display the Cross-over Network list.

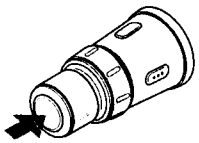
Each press of the button changes the display as follows: Parametric EQ list → Cross-over Network list → previous display.

2 With the list displayed, rotate VOL/DISC/PRESET on the rotary remote to select a preset pattern.

After appearing for 10 seconds, the list is replaced by the normal display.

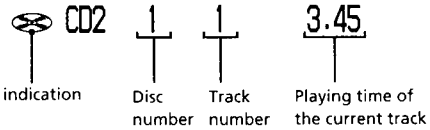
Listening to an Optional CD/MD Changer

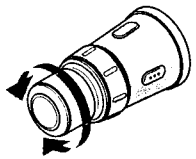
If an optional CD or MD changer is connected to the system, you can locate and listen to discs in the optional changer in the same way as you can with those in the system's CD changer.



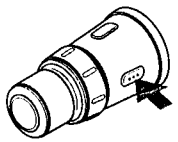
1 Press SOURCE repeatedly to select "CD2" or "MD."

Pressing the button changes the program source as follows: CD1 → CD2 → MD → FM1 → FM2 → AM.





2 Rotate VOL/DISC/PRESET to adjust the volume.



3 Press OFF to turn off the system.

Useful tips

- You can connect multiple CD or MD changers through the optional XA-C30 Source Selector.
- When a non-Sony digital component is connected to the optical input connector of the system, be sure to set the "Digital" sub menu in the AUX menu to "on." (See page 50.)
- When a non-Sony analog component is connected to the analog input connectors of the system, be sure to set the "Analog" sub menu in the AUX menu to "on." (See page 50.)

Notes

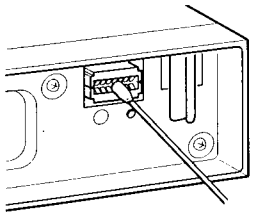
- The Disc Sound Memory function (see page 29) is supported only when a CD changer capable of program play is connected to the system. You can memorize sound effects for up to 110 discs (CDs or MDs).
- The display of CD TEXT disc information is possible only when a CD TEXT disc is played.

Precautions and Maintenance

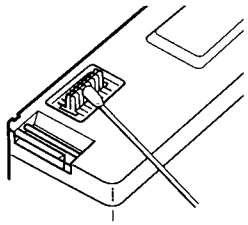
On cleaning the front panel connector

If the front panel connectors are dirty, the system may not function properly. Use a cotton swab slightly moistened with mild detergent solution to clean the connectors.

Connector on the control unit



Connector at the rear of the display section



Handling CDs

- A scratch, dust, and warp on a disc may result in a malfunction such as sound drop-out. Follow the precautions below to keep the disc clean for maximum listening pleasure.
  — Handle the disc by its edge. Do not touch the surface.
  — Do not stick paper or tape onto the disc.
  Should you encounter a CD with a sticker on, remove it and wipe off any residual adhesive before listening to it.
  — Do not scratch discs.
- Do not expose the disc to high heat, such as direct sunlight, or high humidity.
- Before playing the disc, clean it with cleaning cloth (not supplied). Wipe the disc from the center towards the edge.
- Do not use solvents such as benzene, thinner, commercially available cleaners or anti-static spray intended for analog discs.

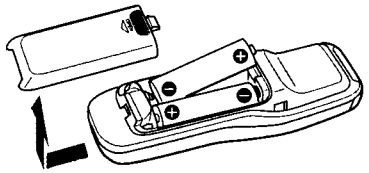
About the LCD display on the display section

When the temperature is extremely high or low, the display may become dim and hard to see. This is due to the characteristics of the LCD and is not a malfunction. The display will return to normal when the temperature becomes normal.

Wireless Remote

Installing batteries in the wireless remote

Insert two size-AA (R6) batteries with the correct polarity.



On batteries

Battery life

When the batteries become weak, you will not be able to operate the system with the wireless remote. Battery life is about six months (or shorter, depending on the way the remote is used). If the remote becomes inoperative, replace the batteries, then verify that it can operate the system.
If the red indicator no longer flashes when you press an operation button on the remote, it means the batteries are weak.

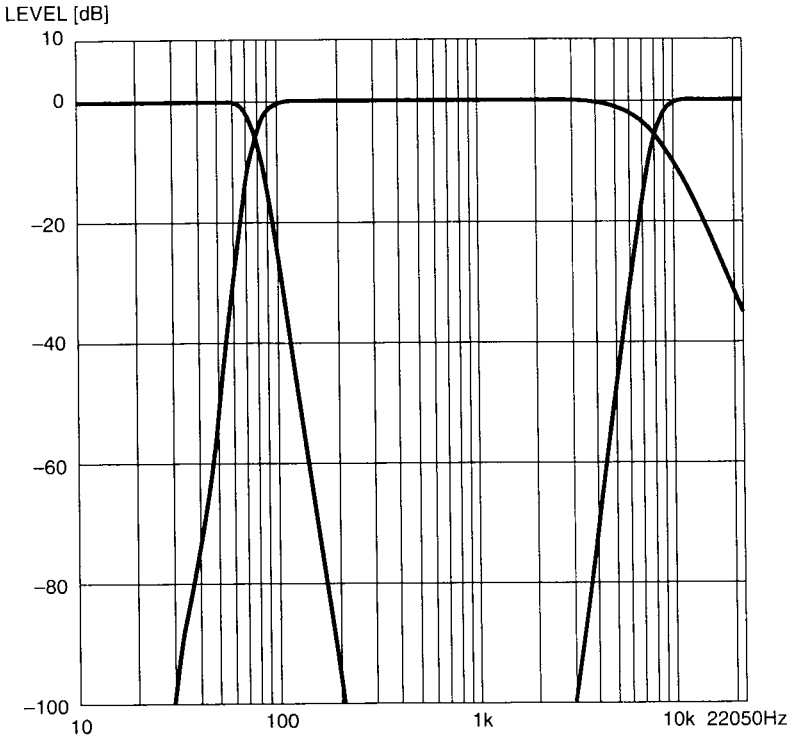
Notes on battery use

To avoid damage from battery leakage and corrosion:
—Make sure the polarity of the batteries match the + and – markings in the battery compartment.
—Do not use an old battery with a new one, or different types of batteries together.
—Remove the batteries when the system will not be used for a long period of time.
—Do not charge the batteries.
If any battery leakage occurs, replace both batteries after cleaning the battery compartment.

Notes on the wireless remote

- To prevent deformation due to heat, do not install the remote in a place subject to direct sunlight.
- Direct sunlight may affect the system's ability to receive infrared signals from the remote. If this happens, move the remote closer to the remote control sensor of the system.
- When parking your car, put the remote somewhere, such as the glove compartment, that is away from direct sunlight to prevent deformation due to heat.

An Example of FIR Filter (4095 tap) Frequency Response Table

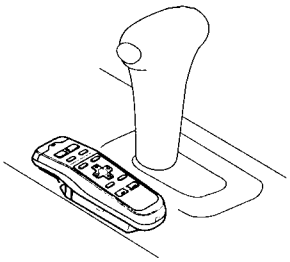


The table above shows the frequency response of the FIR filter (4095 tap) with the following settings:
Low: Cut-off frequency 78 Hz, Slope –72 dB/oct.
Mid-L: Cut-off frequency 78 Hz, Slope –72 dB/oct.
Mid-H: Cut-off frequency 8 kHz, Slope –24 dB/oct.
High: Cut-off frequency 8 kHz, Slope –72 dB/oct.

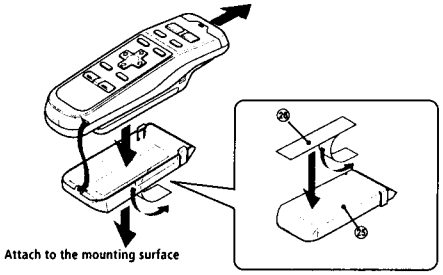
Installing the Wireless Remote

About the installation site

Before installing the remote, make sure that the remote can be taken out easily from the location you are considering and it does not interfere with the movement of any car-control systems such as shift lever or emergency brake.



Wipe the surface where you plan to install the remote holder with the cleaning cloth ⑬, then attach the holder with double-sided tape.



Notes

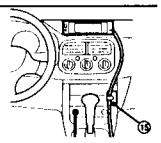
- Direct sunlight may affect the system's ability to receive infrared signals from the remote. If this happens, move the remote closer to the remote control sensor of the system.
- To prevent deformation due to heat, do not install the remote in a place subject to direct sunlight.
- When parking you car, put the remote somewhere, such as the glove compartment, that is away from direct sunlight to prevent deformation due to heat.

After Installation and Connections Have Been Completed

Securing the wires

Secure the wires as described below so that they won't interfere with driving after the system has been installed and connected.
If wires get entangled on the shift lever, a serious accident may result.

1 Secure the wires to the side of the passenger seat using the clamps for wires ⑮.



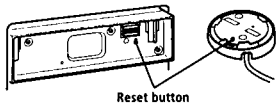
Note

Position the wires so that they do not get caught in the door or on the car seat rails. Wires that are caught this way may be severely damaged.

2 Make sure that all electrical parts function properly, such as the lights, horn, blinkers, and wipers.

3 Press the reset button on the display section, display holder, or rotary remote holder with a pointed object such as a ball-point pen.

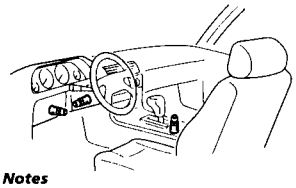
Do not use needles and excessive force when pressing the reset button as this may damage the system.



4 Attach the display section.

Installing the Rotary Remote

Examples of installation location



Notes

- Select the installation location with care so that the rotary remote does not interfere with the operation of the car.
- Do not install the rotary remote where it may endanger the front-seat passenger in any way.
- Take care not to damage electrical wires or any other part while installing the rotary remote.
- Do not install the rotary remote where it will be exposed to high temperatures caused by direct sunlight or hot air from the heater, etc.
- Make sure the installation site is flat.

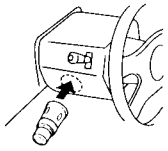
To remove the rotary remote holder from the rotary remote

Rotate the remote clockwise while pressing the RELEASE button, then pull it out.

(Example: When installing on the steering wheel column cover)

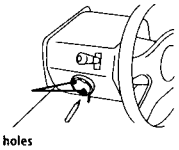
1 Wipe the surface of the spot where the rotary remote will be installed.

If the surface is dirty or greasy, the adhesive strength of the double-sided tape will be weakened.



2 Mark two positions for the supplied screws.

Press the rotary remote holder against the selected spot and mark the screw hole locations with a pencil or pen.

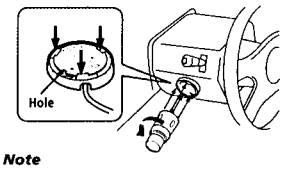


3 Remove the steering wheel column cover and drill 2-mm (3/32-in.)-diameter holes at the spots that you marked.

4 Use the car heater to warm up the installation site and the double-sided tape on the rotary remote holder to a temperature of 70°F to 90°F, then attach the holder at the selected spot, applying even pressure.
Secure the holder with the supplied screws ㉔.

Attach a piece of heavy-duty tape over the tips of the screws on the other side of the installation site to prevent the screws from damaging electrical wires or other components inside the steering wheel column.

5 After installing the steering column cover, attach the rotary remote to the holder. Do this by aligning the four holes on the bottom of the holder with the four catches on the rotary remote, then turning the rotary remote counterclockwise until it locks into place.



Note

If you plan to install the rotary remote on the steering wheel column, make sure the mounting screws do not damage or affect any part or function of the steering column, such as the tilt function, movement of the rotating shaft, mechanical part of the operation switches, or electrical wires.

Installing the Control Unit

About the installation site

Do not install the control unit in the place that might

- interfere with driving;
- be of potential harm to passengers;
- obstruct the opening and closing of the glove compartment or ashtray;
- be exposed to dust or dirt;
- be subject to strong magnetic fields;
- be subject to direct sunlight or hot air from the heater; or
- be exposed to rain, water, or humidity.

About screws and nuts

- Use only the supplied screws and nuts to install the system.
- When tightening screws or nuts, make sure that other wires do not get entangled.
- Do not use the bolts or nuts belonging to the steering or brake system to ground the system or attach parts.
- After removing screws, keep them in a small box or a bag for safekeeping.
- Do not get the various screws mixed up.

Installing the Control Unit in the Center Console or Dashboard

On most of the European, Ford, or Japanese cars, the factory-installed car stereo unit can be removed and replaced with the control unit. For details on your particular car model, consult your Sony dealer.

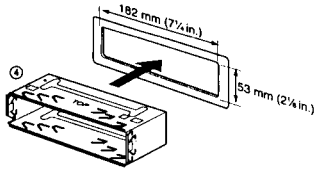
- An optional installation kit may be required to install the control unit on certain makes of car. For details, consult your Sony dealer.
- To avoid damaging the display section during installation of the control unit, you should remove the display section before the start of installation.

Note on installing the control unit in the center console

Due to the size of the center console in some Toyota, Subaru, or Honda models, the sides and the bottom of the mounting frame may be blocked by the cluster panel when you attempt to install it. If the size of your console is 2DIN, select another installation site or file down the portion of the cluster panel (about 0.5 to 1 mm (1/32 to 1/16 in.)) that blocks the mounting frame.

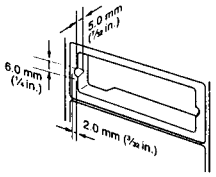
Installing the control unit on an European car, a Ford, or a Mazda

1 Insert the mounting frame ④ into the dashboard with the TOP mark up.



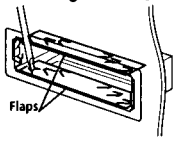
Note

Depending on the make and year of your car, the triangular section of the mounting springs (attached in Step 3) may catch on the sides of the dashboard opening. If this happens, file a notch into both sides of the dashboard opening with a round file as instructed below. The notches will be hidden by the exterior frame.

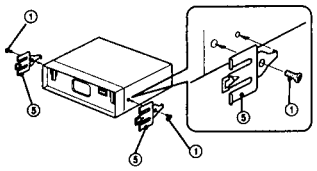


File a notch of approximately 6.0 mm (1/4 in.) high, 2.0 mm (5/32 in.) wide, and 5.0 mm (13/64 in.) deep at the center point of each side of the dashboard opening.

2 Bend the flaps on the mounting frame ④.

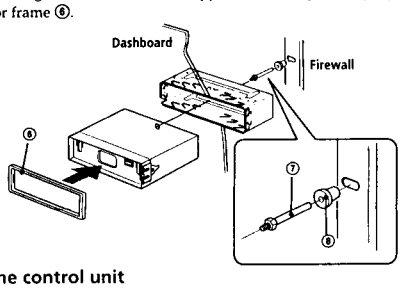


3 Attach the mounting springs ⑤ with the flat screws ①.



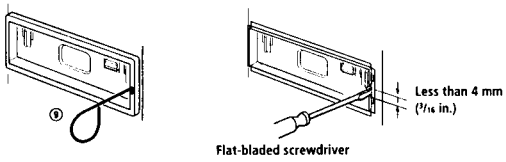
4 Install the control unit.

After connecting the cords, attach the support screw ⑦, push-in plug ⑧, and finally the exterior frame ⑥.



Removing the control unit

Remove the exterior frame with the supplied tool ⑨, then remove the mounting springs on both sides of the control unit by using a flat-bladed screwdriver with a blade width of less than 4 mm (5/32 in.) to release the lock on each spring.



Installing the control unit on a Japanese car

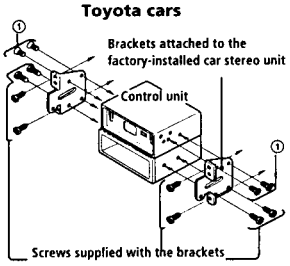
1 Remove the factory-installed car stereo unit.

Remove the car stereo unit from the center console or dashboard.

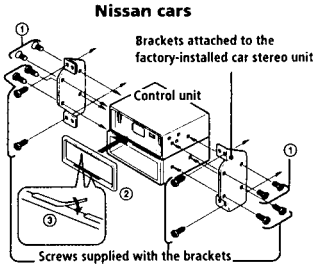
2 Install the control unit.

Install the control unit in the center console or dashboard using the brackets for the factory-installed car stereo unit as shown in the illustrations below.

Toyota cars



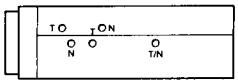
Nissan cars



Attach the double-sided tape strips ③ to the plate for a Nissan car ②, then attach the plate to the control panel.

Notes

- Do not press down on the display on the control unit or push the buttons with excessive force.
- Do not insert anything into the opening above the control panel.
- When attaching the brackets, insert the flat screws ① into the holes that correspond to the make of the car (T for Toyota or Mitsubishi, and N for Nissan).



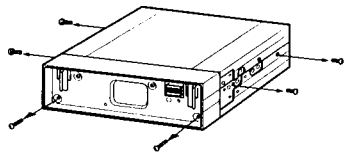
- Use only the supplied flat screws for attaching the brackets. Use of any other screws may damage the system.

Attaching the Display Section on the Dashboard

Do the procedure below to install the display section on the dashboard.

Removing the display interface

1 Remove the six screws on the control unit.

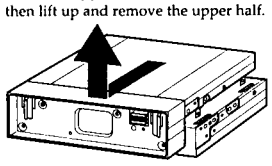


Note

Be sure to keep the four screws in a safe place.

2 Remove the upper half of the control panel.

Move the upper half backward and forward until the front connectors disengage, then lift up and remove the upper half. The upper half is not used for installation.

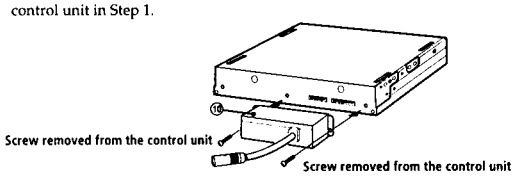


Note

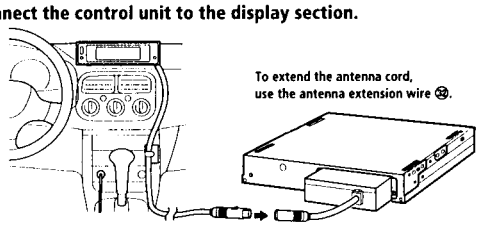
Store the upper half in a plastic bag.

3 Attach the connector box ⑩.

Attach the connector box to the control unit using two screws removed from the control unit in Step 1.



4 Connect the control unit to the display section.



Precautions on the installation of the display section on the dashboard

Depending on where and how you install the display section, you may hear noise while listening to the radio in areas with weak radio signals. To prevent this, take the following precautions when installing the display section.

Keep the connector cords, power cord, and antenna as far apart as possible from one another.

If the cords are placed side by side or are bundled together, noise may occur.

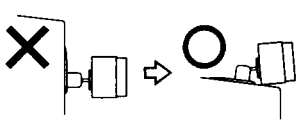
Install the display section as far away as possible from the antenna.

Noise may occur when the antenna is close to the display section, especially on cars with the antenna attached to the windshield. If this happens, use a commercially available rod antenna instead. In the case of a rod antenna, you should keep the display section as far from the antenna as possible, and keep the cords and antenna apart, as explained above.

Installing the display section

Before installing the display section

Improper positioning of the display section may lead to a serious accident. Make sure the display section is positioned so that it does not interfere with the proper functioning of the passenger seat air-bag.

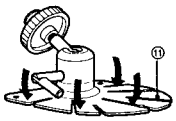


Note

Do not install the display section at a place where it will be unstable. The display section may fall off and cause serious damage or injury.

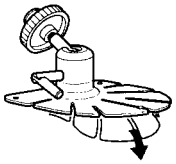
1 Bend the stand ⑪ to match the configuration of the dashboard.

Be careful not to bend more than is required since doing so will leave unnecessary space between the stand and the dashboard.



2 Use the cleaning cloth ⑬ to wipe the spot where the stand will be installed.

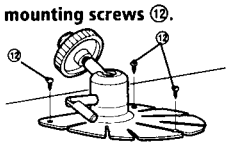
3 Tear off the backing from the stand and attach the stand to the dashboard.



Notes

- The tape at the bottom of the stand will be less adhesive when attached to a cold dashboard (with a temperature of less than 70°F). Turn on the car heater and allow the dashboard surface and the stand to warm up to more than 70°F before attaching the stand. Wait more than 24 hours before attaching the display section to the stand.
- After attaching the stand, removing and reattaching it will leave the tape at the bottom of the stand dangerously weak. For this reason, make sure the location of the stand is right before attaching it.
- To remove the stand, use the car heater to warm up the dashboard where the stand is, then slowly pull the stand away from the dashboard.

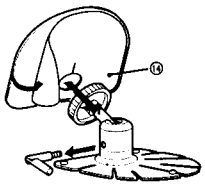
4 Secure the stand to the dashboard with three mounting screws ⑫.



Note

Make sure that the screws do not damage any wires inside the dashboard.

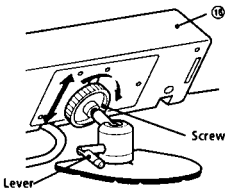
5 Attach the stand cover ⑭ to the stand.



6 Insert the screw part of the stand into the hole on the back of the display holder ⑯ and adjust the height.

Adjust the height of the display section so that the bottom of the display section touches the dashboard. This will prevent the display from shaking from vibrations during driving.

After adjusting the height, secure it by tightening the screw.



7 Loosen the lever to adjust the display angle.

After adjusting the angle, secure it by tightening the lever.

Installing the CD Changer

About the installation site

- Select a site that allows the easy opening and closing of the door and loading and unloading of the disc magazine.
- Make sure that the installation site is flat.

Notes

Do not install the CD changer in a place subject to

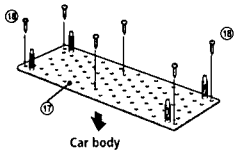
- temperatures greater than 130°F;
- direct sunlight or hot air from the heater;
- rain, water, or moisture;
- dust or dirt;
- vibrations that make proper installation impossible;

You should also not install the system at places with wires and pipes underneath, or in the trunk or bottom of the trunk where the CD changer may damage the spare tire or other spare car parts.

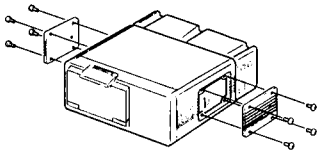
Installing the CD Changer Horizontally

1 Attach the mounting board ⑰ on the installation surface.

Attach the four corners of the mounting board with the supplied screws ⑱ as illustrated below. Space the screws as widely apart as possible.



2 Remove the eight screws from the side covers of the CD changer.



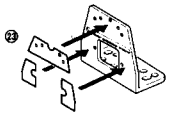
Note

Keep all screws in a safe place.

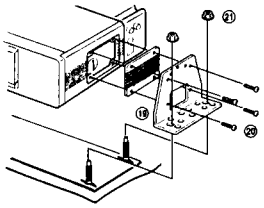
3 Use a coin to turn the dials on both sides of the CD changer to 0°.

The dial is factory set to 0°.

4 Attach the protective stickers ㉓ to the brackets ⑲.



5 Attach the brackets ⑲ with the supplied screws ⑳ and nuts ㉑.



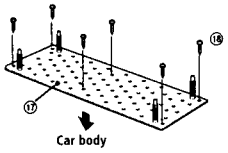
Note

Be sure to complete all wire connections before attaching the brackets.

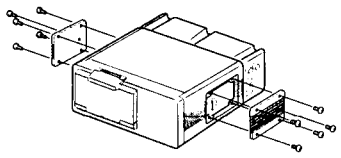
Installing the CD Changer on its Side

1 Attach the mounting board ⑰ on the installation surface.

Attach the four corners of the mounting board with the supplied screws ⑱ as illustrated below. Space the screws as widely apart as possible.



2 Remove the ten screws from the side covers of the CD changer.



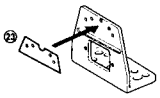
Note

Keep all screws in a safe place.

3 Use a coin to turn the dials on both sides of the CD changer to 90°.

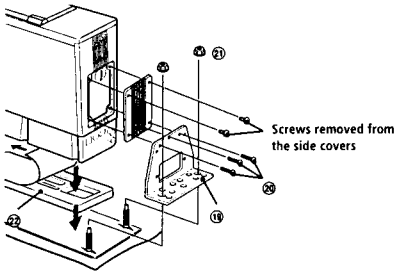
The dial is factory set to 0°.

4 Attach the protective stickers ㉓ to the brackets ⑲.



5 Attach the brackets ⑲ using four of the ten screws removed from the side covers in Step 2, and the six supplied screws ⑳ and nuts ㉑.

Place down the urethane sheet ㉒ on the side of the CD changer that will contact the mounting board.

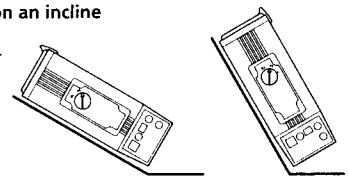


Note

Be sure to complete all connections before attaching the brackets.

If the CD changer is installed on an incline

Set the dials so that the arrow is as vertical as possible in relation to the car floor.



Note

Set both dials to the same position.

Connection Diagram (3Way System)

Avoiding short-circuits

Connect the power supply wires (yellow and red wires) only after all other connections have been made or after disconnecting the minus connector of the car battery.
Note, however, that if the car is equipped with a car computer or car navigation unit, any contents saved in memory may disappear when the minus connector is disconnected from the battery.

Connecting antenna booster for a window antenna

An antenna booster may require a power source, depending on the car model. If a power source is required, connect the blue power-supply wire to the antenna booster or draw power for the antenna booster from the accessory power outlet. For details, consult your Sony dealer.

Using a power antenna

Connect the blue power-supply wire at the rear of the control unit to the power antenna's relay box. Whenever you turn the ignition switch to ACC ON, power is supplied to the antenna and the antenna extends.

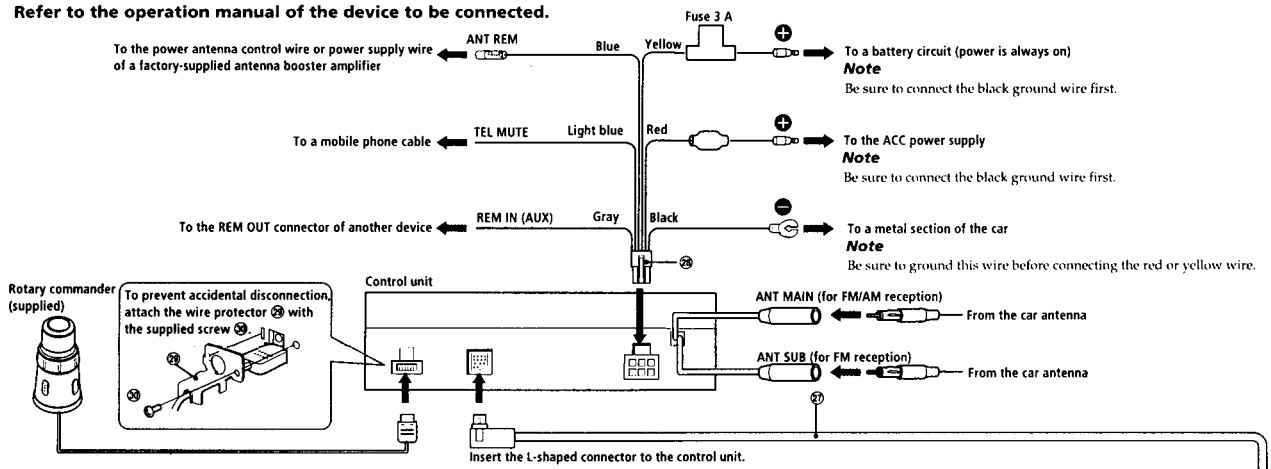
Notes regarding fuses

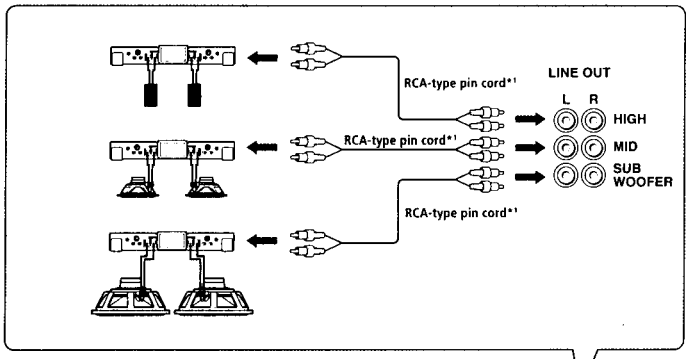
- If the fuse at the bottom of the CD changer or in the middle of a power-supply wire is blown, check the connection, verify the cause of the power surge, and take appropriate measures to correct it. Then insert a new fuse with the same power rating (in amperes) as the old one. If you use one with a higher power rating, or substitute the fuse with a wire, you may start a fire or receive an electrical shock.
- Connect the yellow wire to a free car circuit rated higher than the XES-Z50 system's power rating. If you connect the XES-Z50 system in series with other stereo components, the car circuit they are connected to must be rated higher than the sum of the individual components' power rating. If there are no car circuits rated as high as the XES-Z50 system's power rating, connect the XES-Z50 system directly to the battery. If no car circuits are available for connecting the XES-Z50 system, connect the system to a car circuit rated higher than the system's power rating in such a way that if the XES-Z50 system blows its fuse, no other circuits will be cut off.

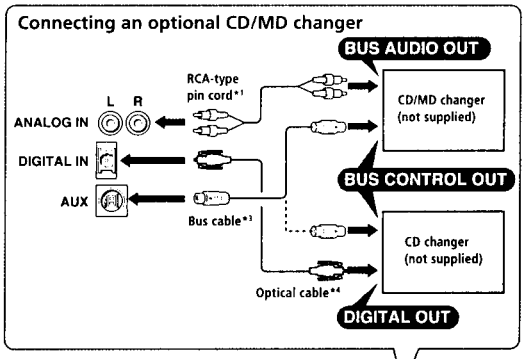
Power-supply wire colors

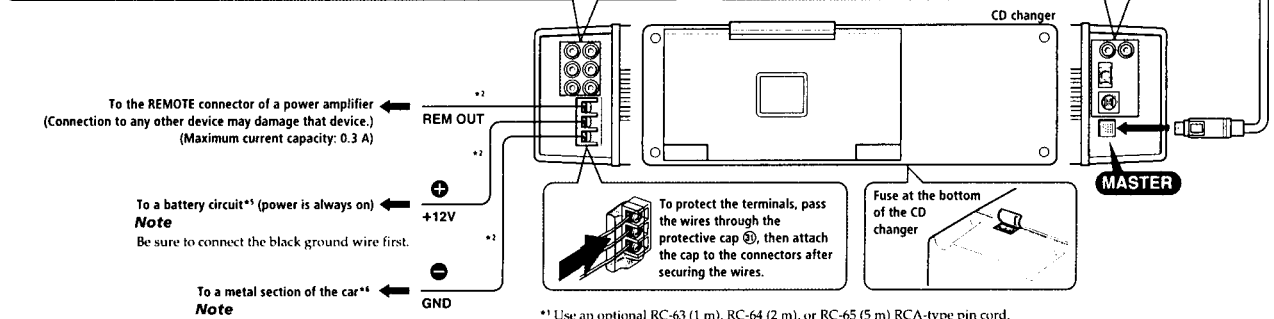
Red	Accessory (ACC) power supply wire Connect this wire to circuits that are turned off when the ignition switch is turned to LOCK or OFF position, and turned on when the ignition switch is turned to ACC (radio circuit, etc.).
Yellow	Provides power for car operation-related circuits Connect to circuits that draw power regardless of the ignition switch's position, and at a higher power rating than that of the XES-Z50 system. When the ignition switch is turned to OFF, enough power is supplied to maintain the memory contents in the XES-Z50 system.
Black	Ground wire Connect securely to a metal section of the car.
Blue	• Provides power for operating the power antenna Supplies 12 V DC for operating a power antenna when the control unit is turned on. For details, refer to the operation manual supplied with the power antenna. • Provides power for operating the factory-supplied antenna booster amplifier ***Note*** This wire cannot supply power to the power antenna without the relay box.
Light blue	Connect to a mobile phone cable Use this wire to supply power to a mobile phone. For details, refer to the operation manual supplied with the mobile phone.
Gray	Connect this wire to a REM OUT connector This wire is used to output control signal from the XES-Z50 system to another device made by Sony or another manufacturer.

Refer to the operation manual of the device to be connected.


Fuse 3 A
To the power antenna control wire or power supply wire of a factory-supplied antenna booster amplifier
ANT REM
Blue
Yellow
To a battery circuit (power is always on)
Note
Be sure to connect the black ground wire first.
To a mobile phone cable
TEL MUTE
Light blue
Red
To the ACC power supply
Note
Be sure to connect the black ground wire first.
To the REM OUT connector of another device
REM IN (AUX)
Gray
Black
To a metal section of the car
Note
Be sure to ground this wire before connecting the red or yellow wire.
Rotary commander (supplied)
To prevent accidental disconnection, attach the wire protector ㉘ with the supplied screw ㉙.
Control unit
ANT MAIN (for FM/AM reception)
From the car antenna
ANT SUB (for FM reception)
From the car antenna
Insert the L-shaped connector to the control unit.



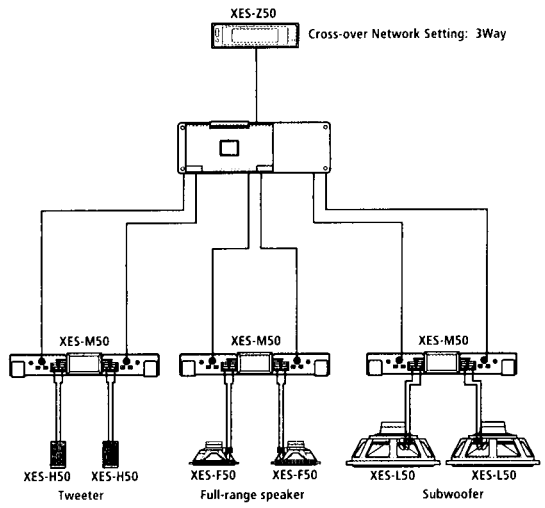



CD changer
To the REMOTE connector of a power amplifier (Connection to any other device may damage that device.) (Maximum current capacity: 0.3 A)
REM OUT
*2
To a battery circuit*5 (power is always on)
Note
Be sure to connect the black ground wire first.
+12V
*2
To a metal section of the car*6
Note
Be sure to ground this wire before connecting the yellow wire.
GND
MASTER
To protect the terminals, pass the wires through the protective cap ㉛, then attach the cap to the connectors after securing the wires.
Fuse at the bottom of the CD changer

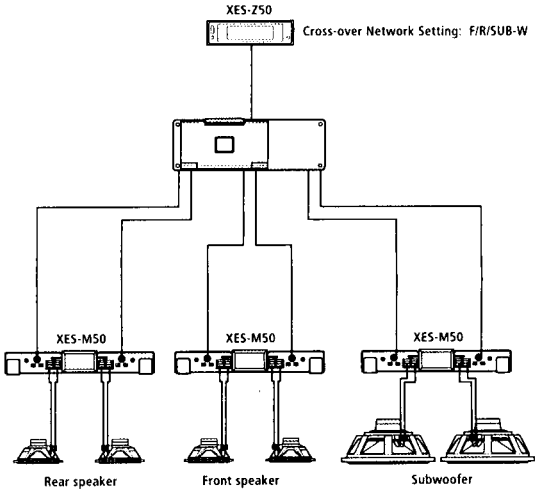
*1 Use an optional RC-63 (1 m), RC-64 (2 m), or RC-65 (5 m) RCA-type pin cord.
*2 Use commercially available cords.
*3 Use the Sony bus cable supplied with the optional CD/MD changer.
*4 Use an optional RC-97 (2 m) or RC-98 (5 m) optical cable.
*5 Direct connections to a battery circuit should be made with a cord of at least 8 gauge in size (AWG-10, 5 mm² cross section), with a fuse (3 A to 5 A) positioned as near to the battery as possible.
*6 Use a cord of at least 8 gauge in size (AWG-10, 5 mm² cross section).

System Configuration Examples

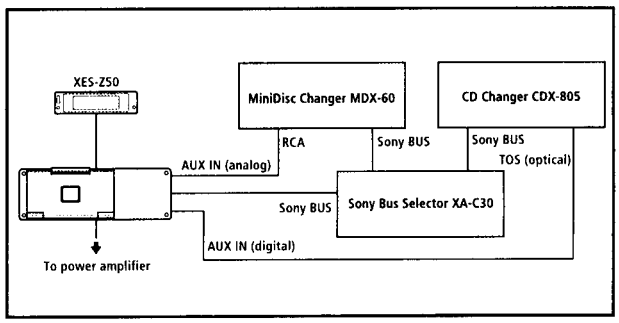
3Way System

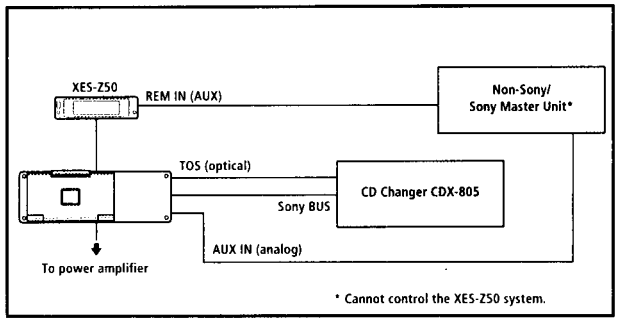


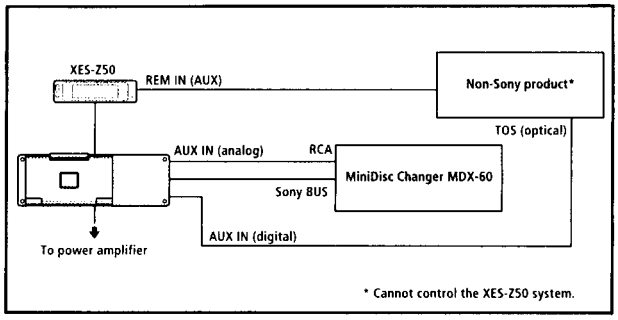
F/R/SUB-W System

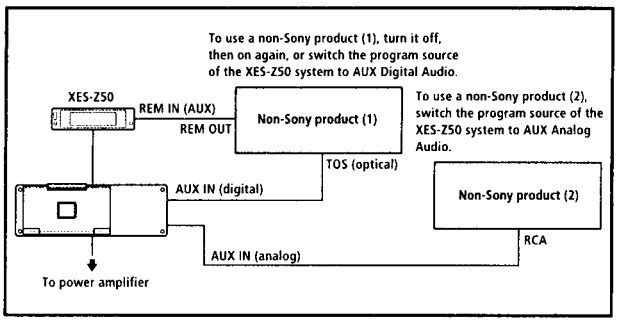


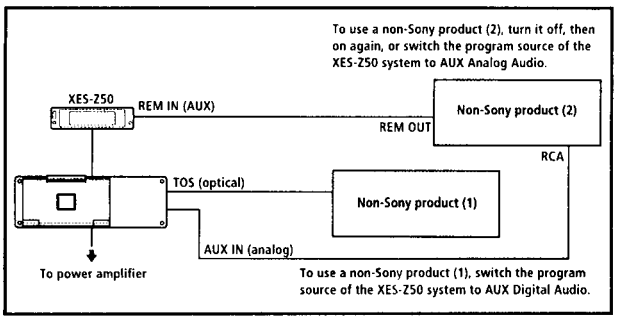
Other system configurations










To use a non-Sony product (2), turn it off, then
on again, or switch the program source of the
XES-Z50 system to AUX Analog Audio.
XES-Z50
REM IN (AUX)
Non-Sony product (2)
REM OUT
RCA
TOS (optical)
Non-Sony product (1)
AUX IN (analog)
To power amplifier
To use a non-Sony product (1), switch the program
source of the XES-Z50 system to AUX Digital Audio.

SECTION 3
DISASSEMBLY

• This set can be disassembled in the order shown below.

CHANGER SECTION

DSP ASS'Y (Page 37) → COVER (UPPER • LOWER) (Page 38) → FRONT/SIDE/ REAR PANEL (Page 38) → MECHANISM DECK SECTION (MG-110ES-132) (Page 39) → COVER (MDEK) ASS'Y, ESCUTCHEON (2) (Page 40) → EV SECTION, CHASSIS (MZ,EK) ASS'Y (Page 41) → ROLLER (T), DPT BOARD, ARM (KR) COMPLETE ASS'Y (Page 41)

MECHANISM DECK SECTION (MG-110ES-132) (Page 39) → SW BOARD (Page 39)

MECHANISM DECK SECTION (MG-110ES-132) (Page 39) → DRIVER BOARD, OPTICAL PICK-UP (KSM-400AAM) (Page 40)

CONTROLLER SECTION

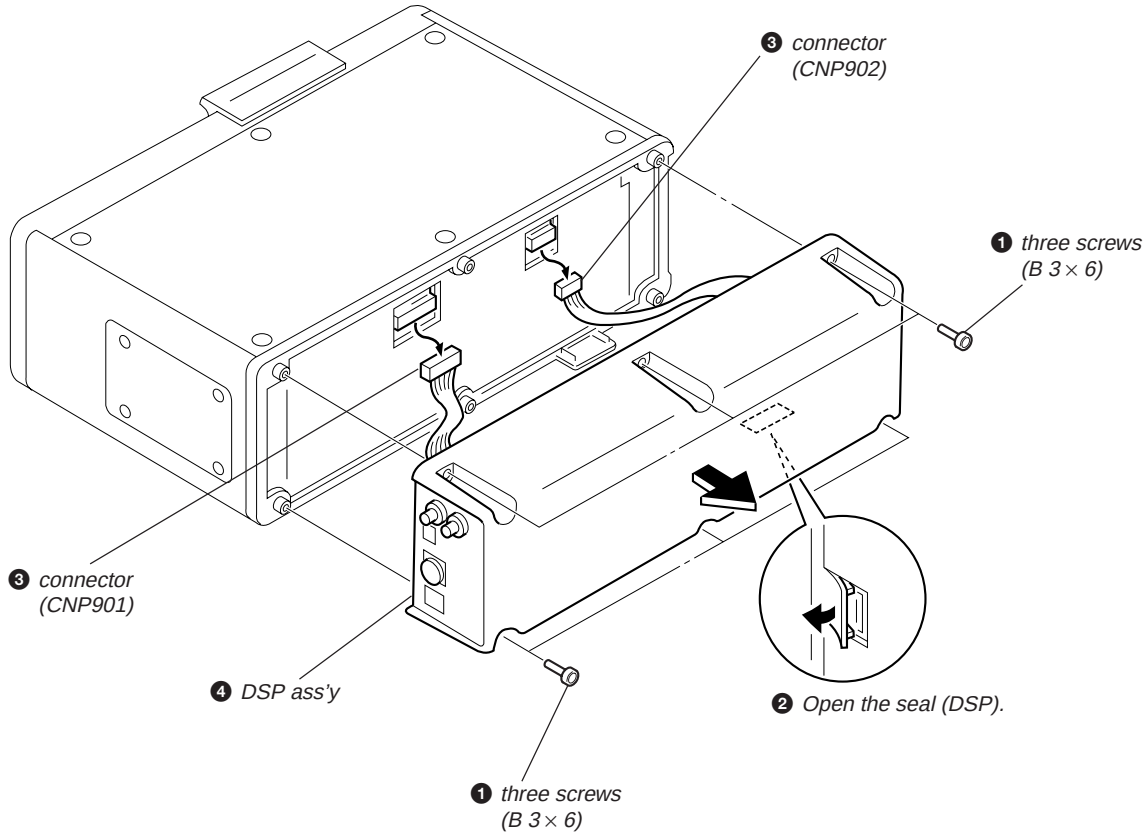
FRONT PANEL ASS'Y (Page 42) → SUB PANEL ASS'Y, FRONT PANEL DESORPTION MACHINERY (Page 43) → MOTOR ASS'Y (FRONT PANEL DESORPTION) (M1) (Page 43)

FRONT PANEL ASS'Y (Page 42) → LIQUID CRYSTAL MODULE (Page 42)

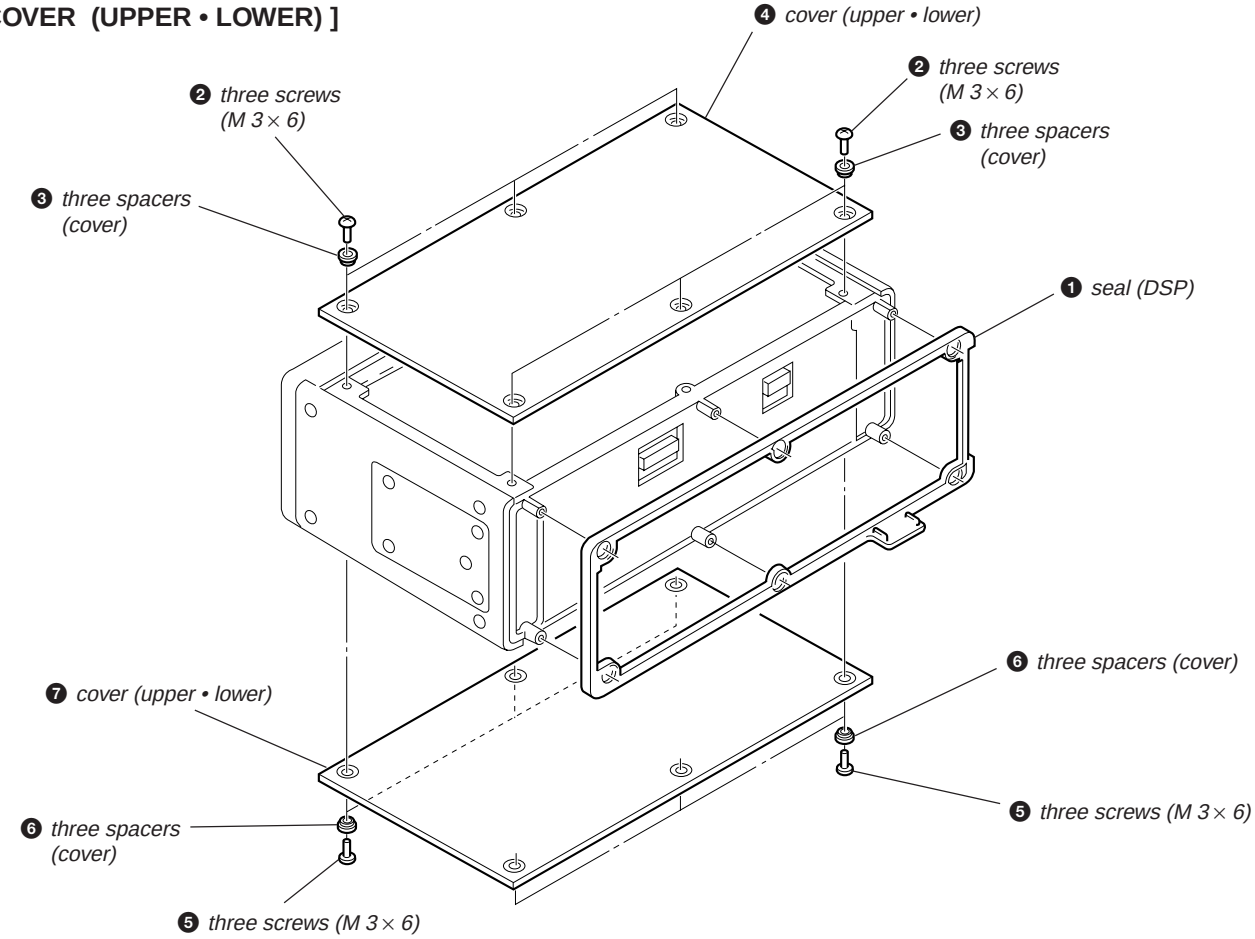
SUB PANEL ASS'Y, FRONT PANEL DESORPTION MACHINERY (Page 43) → TUNER ASS'Y (Page 44)

Note: Follow the disassembly procedure in the numerical order given.

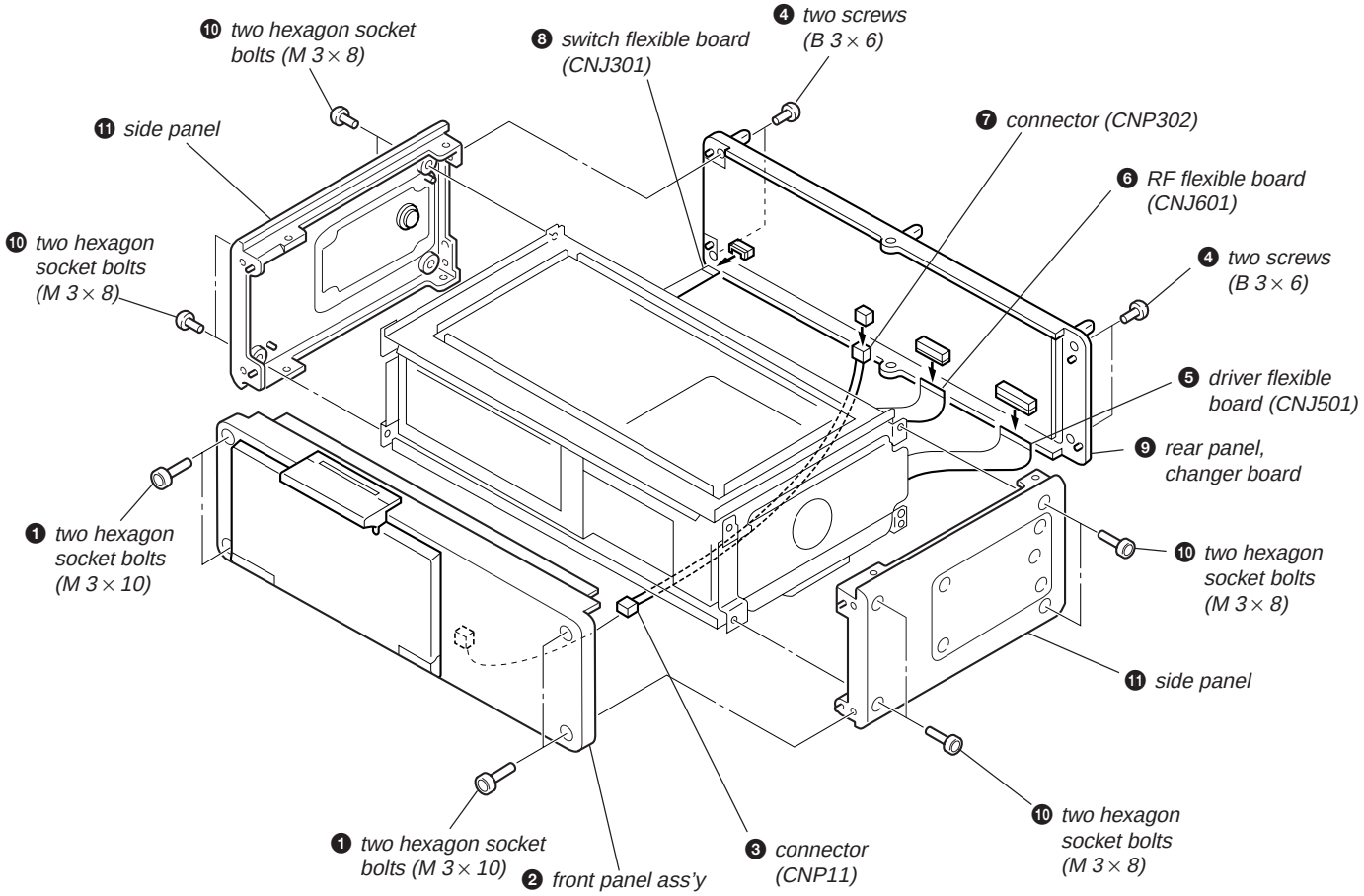
CHANGER SECTION
[DSP ASS'Y]



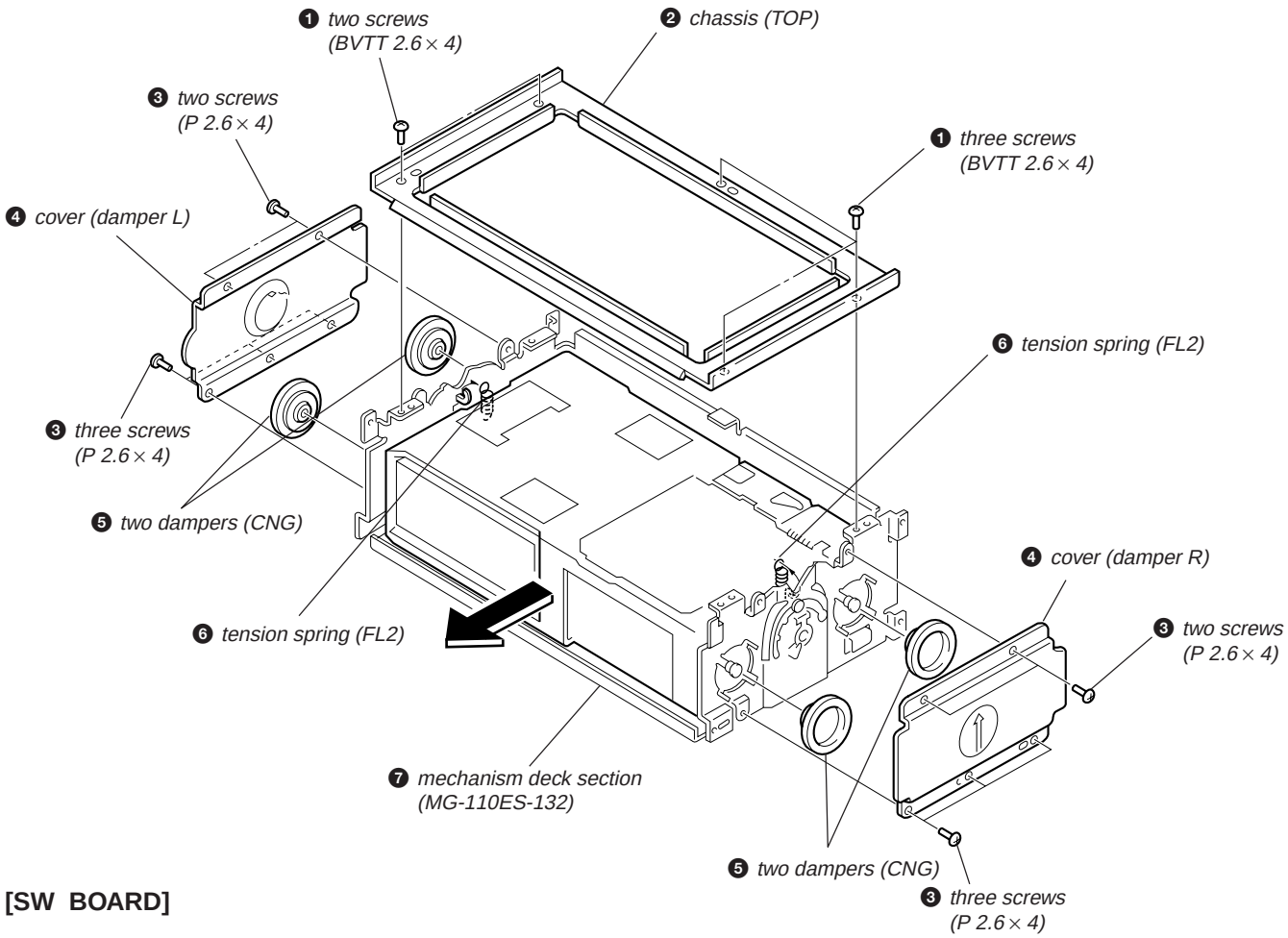
[COVER (UPPER • LOWER)]


❹ cover (upper • lower)
❷ three screws (M 3 × 6)
❸ three spacers (cover)
❷ three screws (M 3 × 6)
❸ three spacers (cover)
❶ seal (DSP)
❻ three spacers (cover)
❼ cover (upper • lower)
❺ three screws (M 3 × 6)
❻ three spacers (cover)
❺ three screws (M 3 × 6)

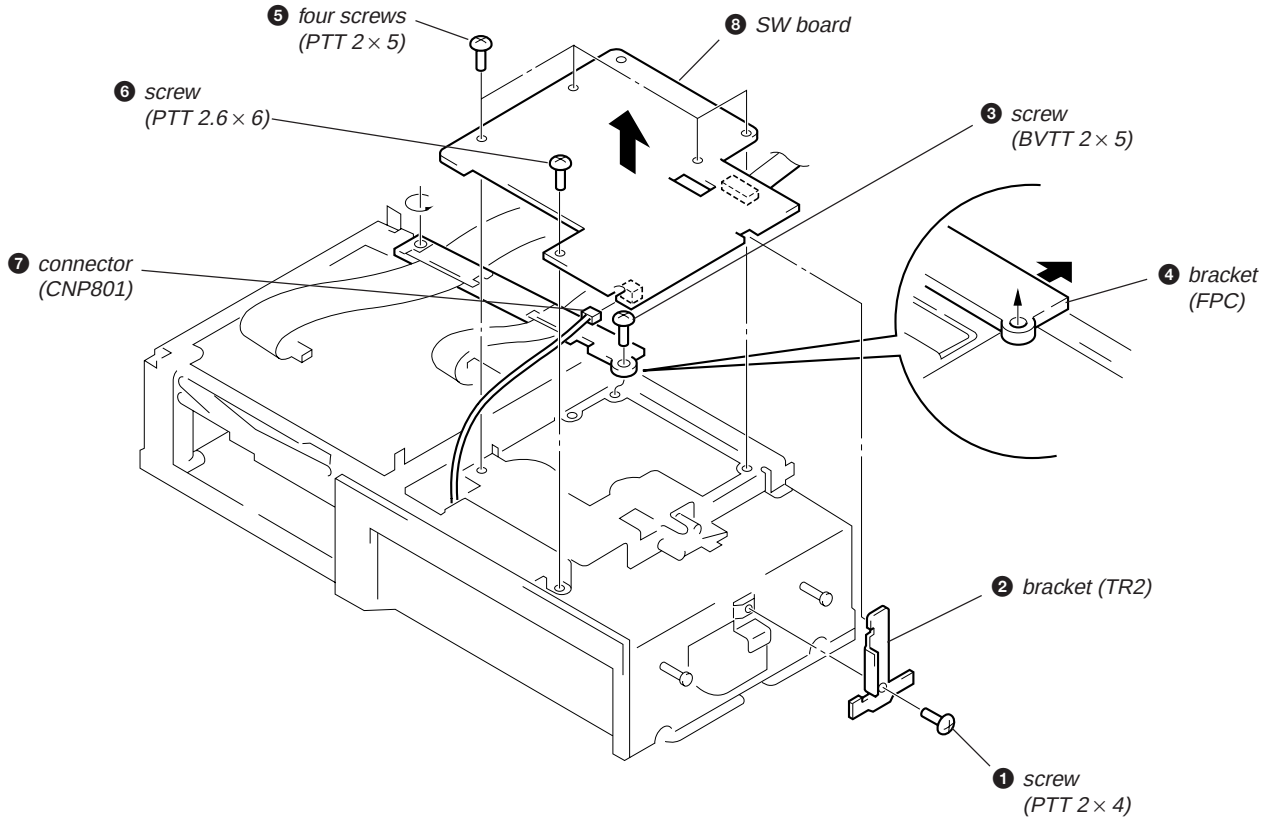
[FRONT/SIDE/REAR PANEL]


❿ two hexagon socket bolts (M 3 × 8)
❽ switch flexible board (CNJ301)
❹ two screws (B 3 × 6)
⓫ side panel
❼ connector (CNP302)
❻ RF flexible board (CNJ601)
❿ two hexagon socket bolts (M 3 × 8)
❹ two screws (B 3 × 6)
❺ driver flexible board (CNJ501)
❾ rear panel, changer board
❶ two hexagon socket bolts (M 3 × 10)
❿ two hexagon socket bolts (M 3 × 8)
⓫ side panel
❿ two hexagon socket bolts (M 3 × 8)
❶ two hexagon socket bolts (M 3 × 10)
❷ front panel ass'y
❸ connector (CNP11)

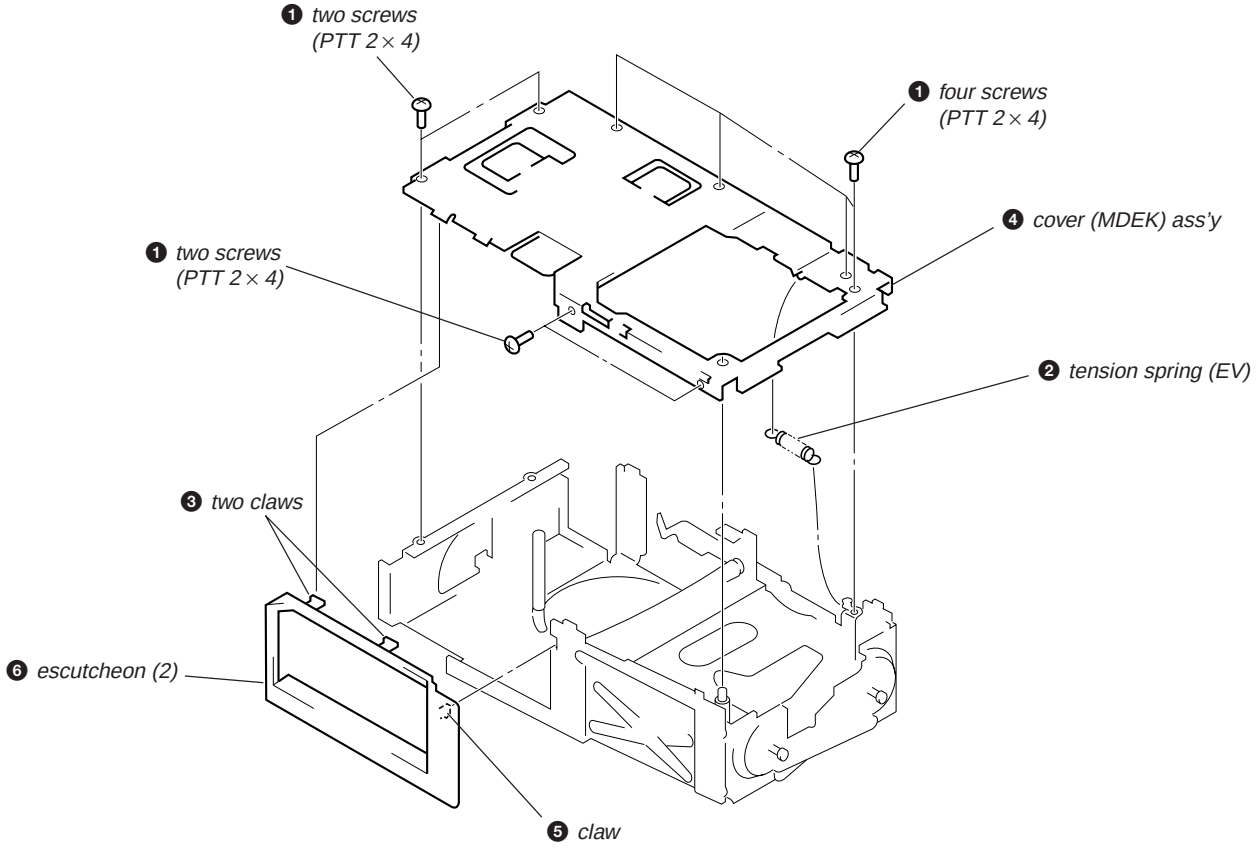
[MECHANISM DECK SECTION (MG-110ES-132)]


❶ two screws (BVTT 2.6× 4)
❷ chassis (TOP)
❸ two screws (P 2.6× 4)
❶ three screws (BVTT 2.6× 4)
❹ cover (damper L)
❻ tension spring (FL2)
❸ three screws (P 2.6× 4)
❺ two dampers (CNG)
❹ cover (damper R)
❻ tension spring (FL2)
❸ two screws (P 2.6× 4)
❼ mechanism deck section (MG-110ES-132)
❺ two dampers (CNG)
❸ three screws (P 2.6× 4)

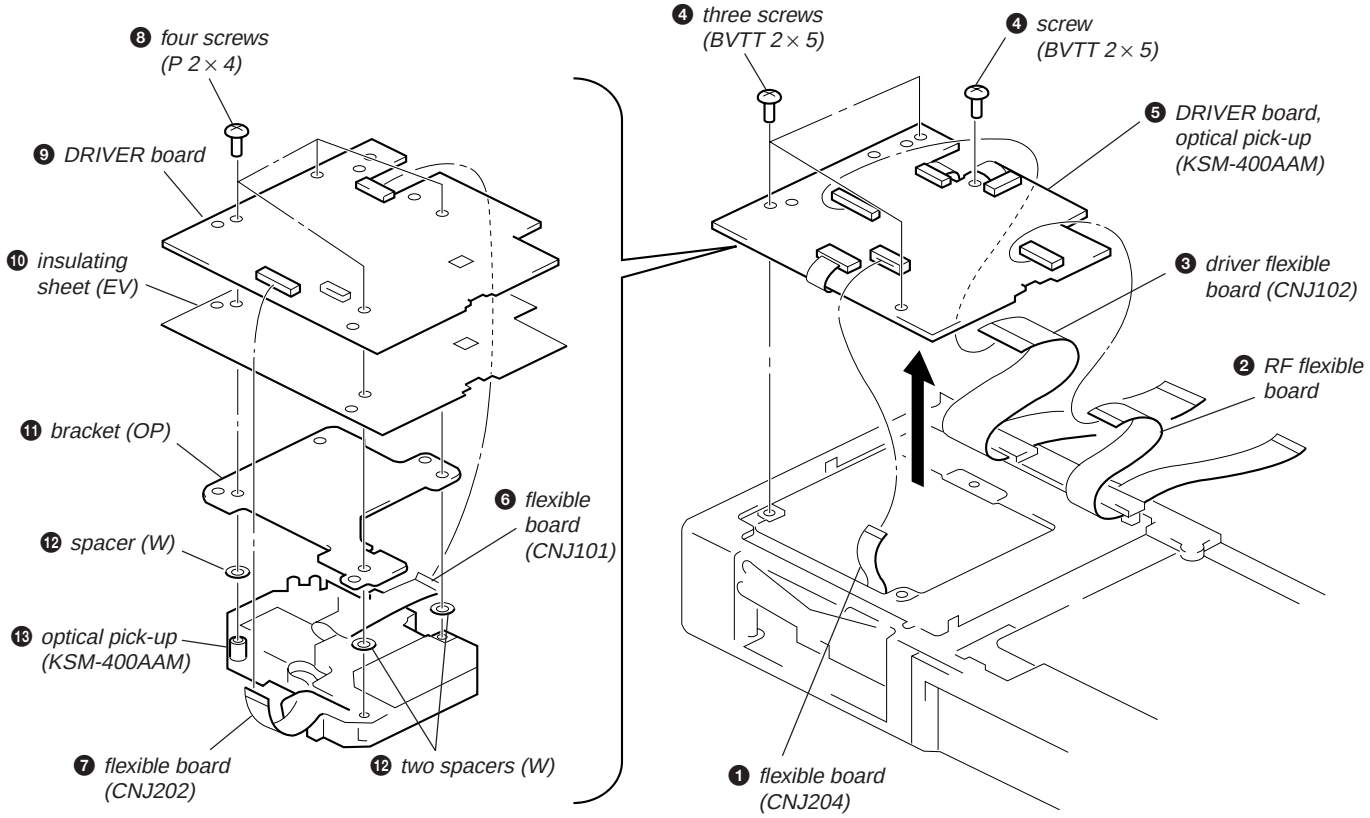
[SW BOARD]



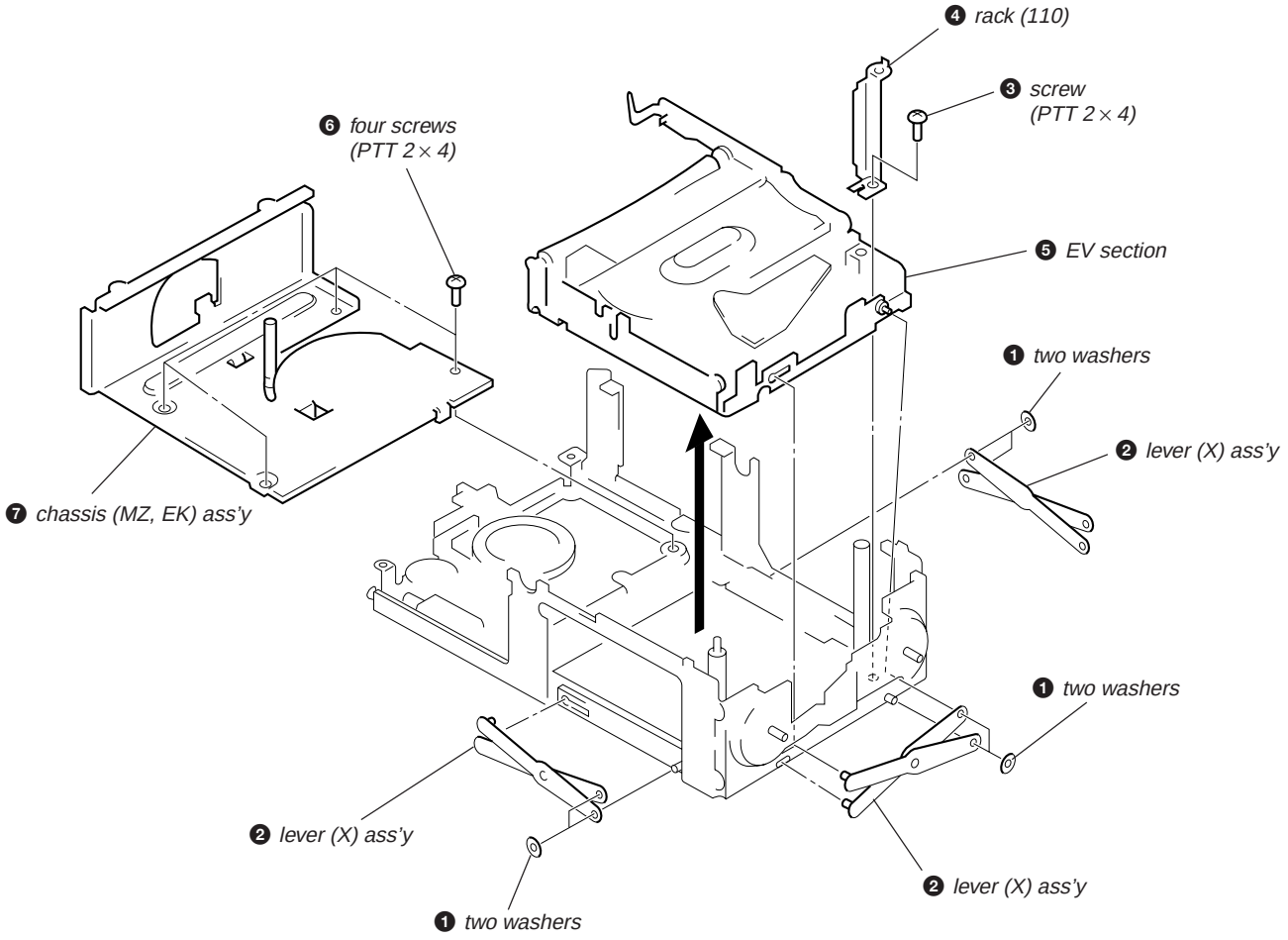
[COVER (MDEK) ASS'Y, ESCUTCHEON (2)]


❶ two screws (PTT 2 × 4)
❶ four screws (PTT 2 × 4)
❹ cover (MDEK) ass'y
❶ two screws (PTT 2 × 4)
❷ tension spring (EV)
❸ two claws
❻ escutcheon (2)
❺ claw

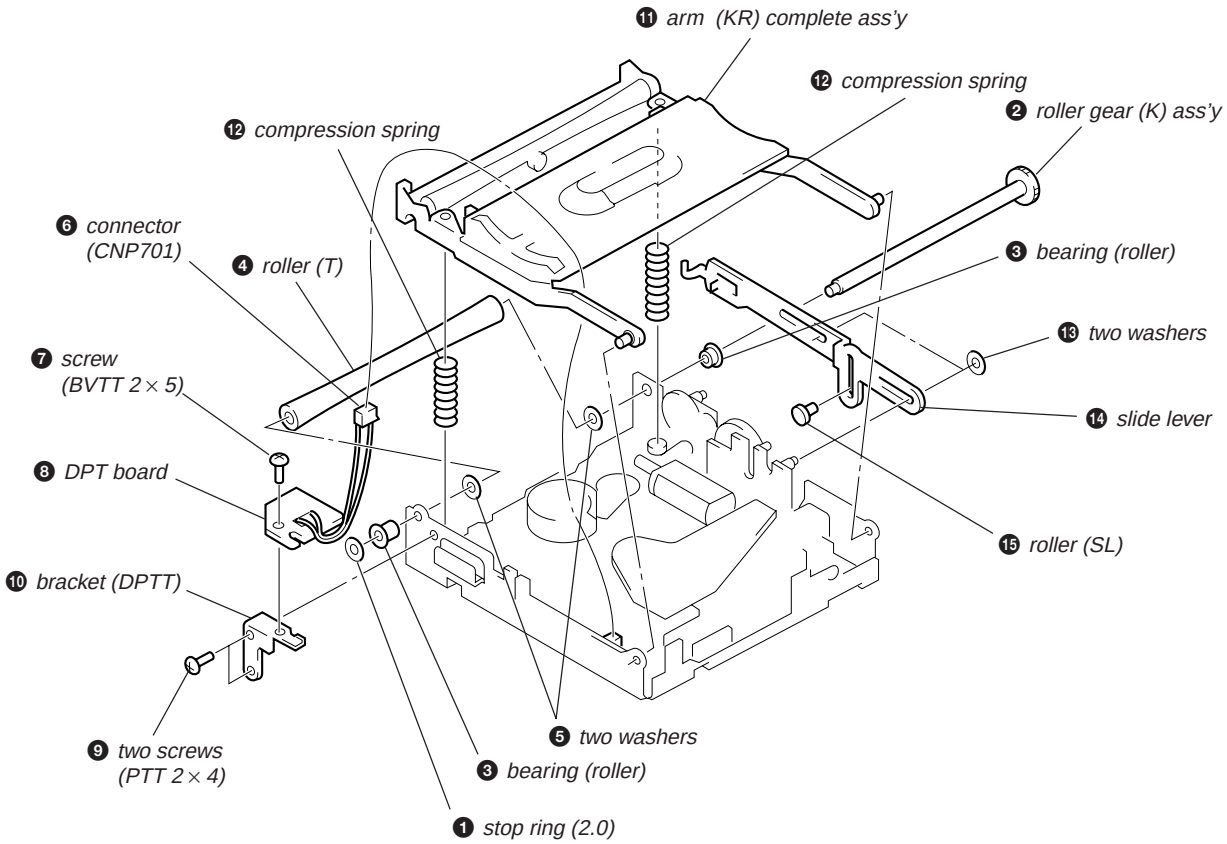
[DRIVER BOARD, OPTICAL PICK-UP (KSM-400AAM)]


❽ four screws (P 2 × 4)
❹ three screws (BVTT 2 × 5)
❹ screw (BVTT 2 × 5)
❺ DRIVER board, optical pick-up (KSM-400AAM)
❾ DRIVER board
❸ driver flexible board (CNJ102)
❿ insulating sheet (EV)
❷ RF flexible board
⓫ bracket (OP)
❻ flexible board (CNJ101)
⓬ spacer (W)
⓭ optical pick-up (KSM-400AAM)
❼ flexible board (CNJ202)
⓬ two spacers (W)
❶ flexible board (CNJ204)

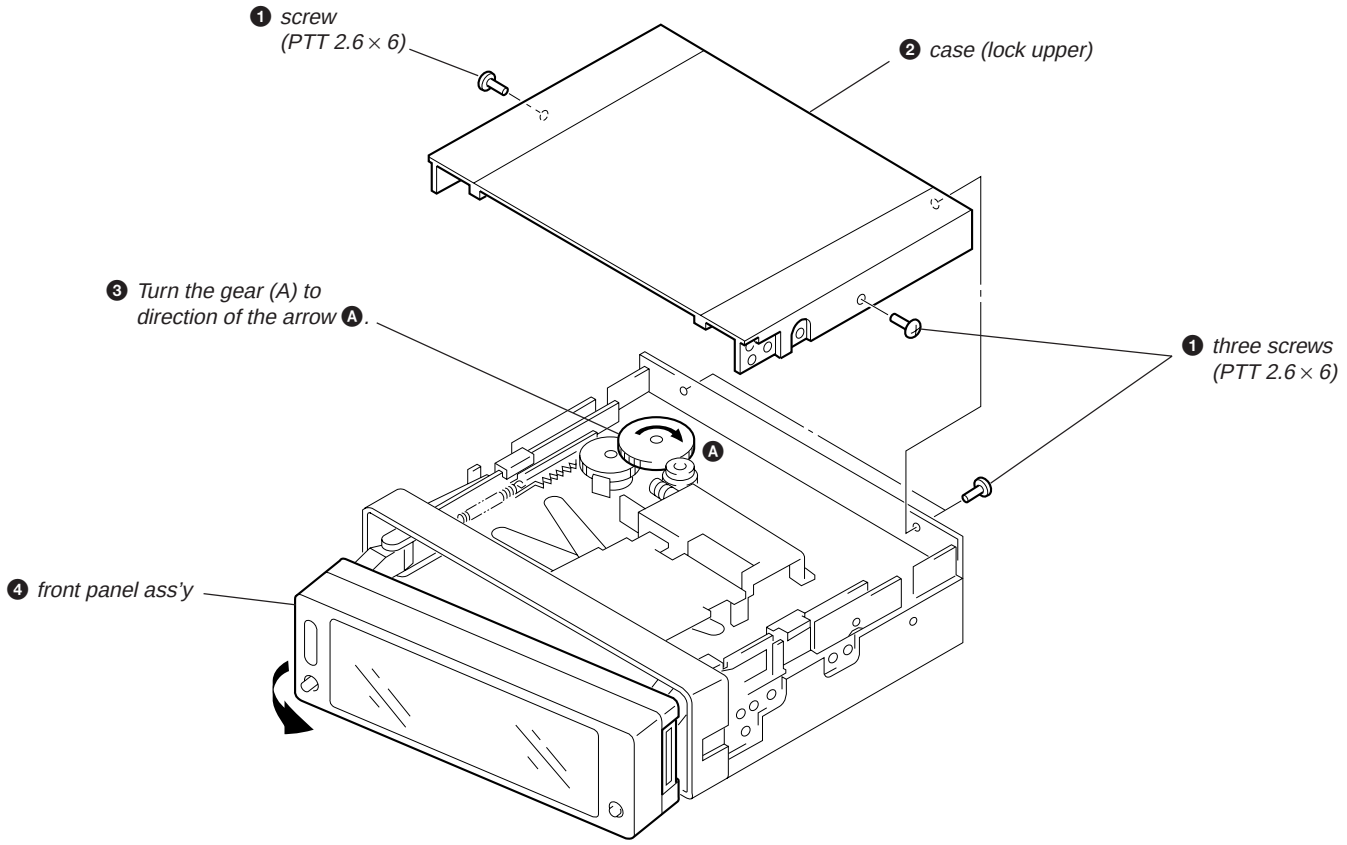
[EV SECTION, CHASSIS (MZ, EK) ASS'Y]


❹ rack (110)
❸ screw (PTT 2 × 4)
❻ four screws (PTT 2 × 4)
❺ EV section
❶ two washers
❷ lever (X) ass'y
❼ chassis (MZ, EK) ass'y
❶ two washers
❷ lever (X) ass'y
❷ lever (X) ass'y
❶ two washers

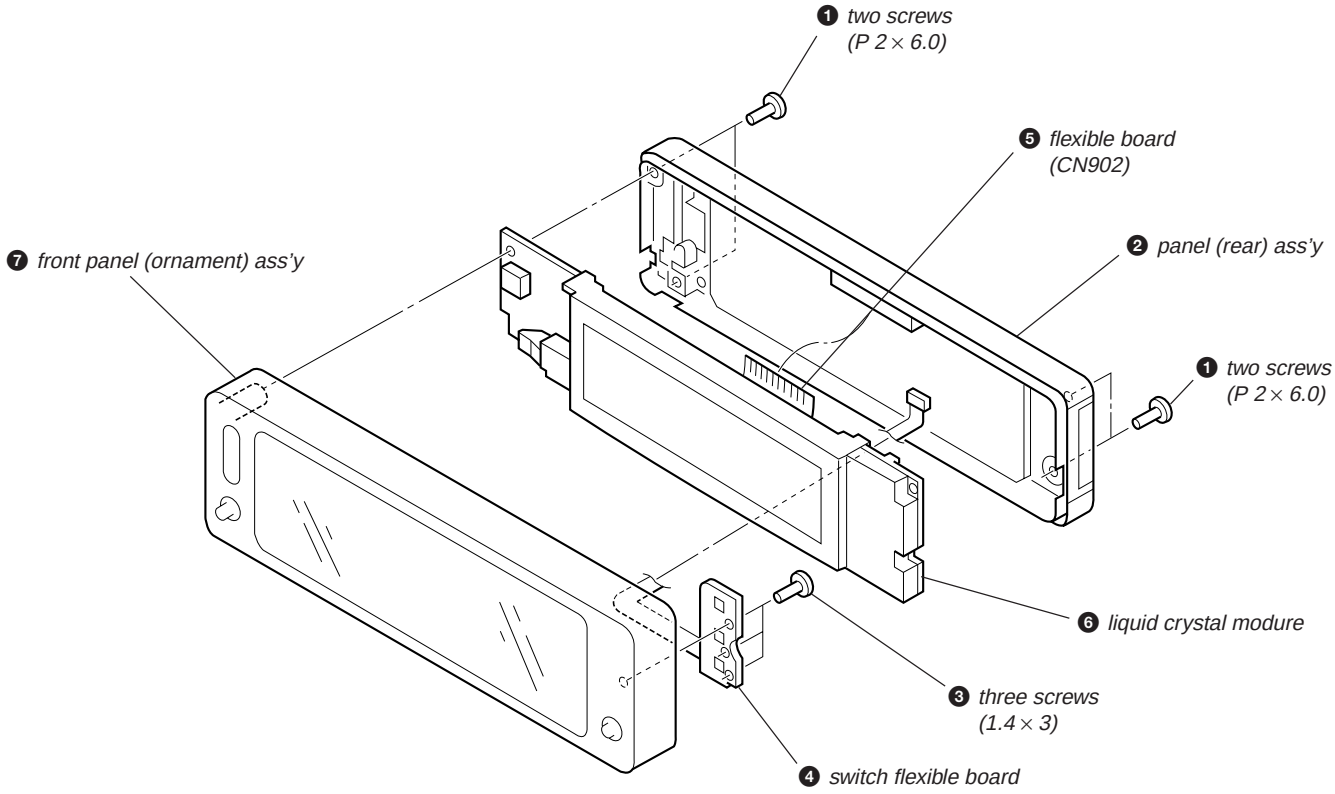
[ROLLER (T), DPT BOARD, ARM (KR) COMPLETE ASS'Y]



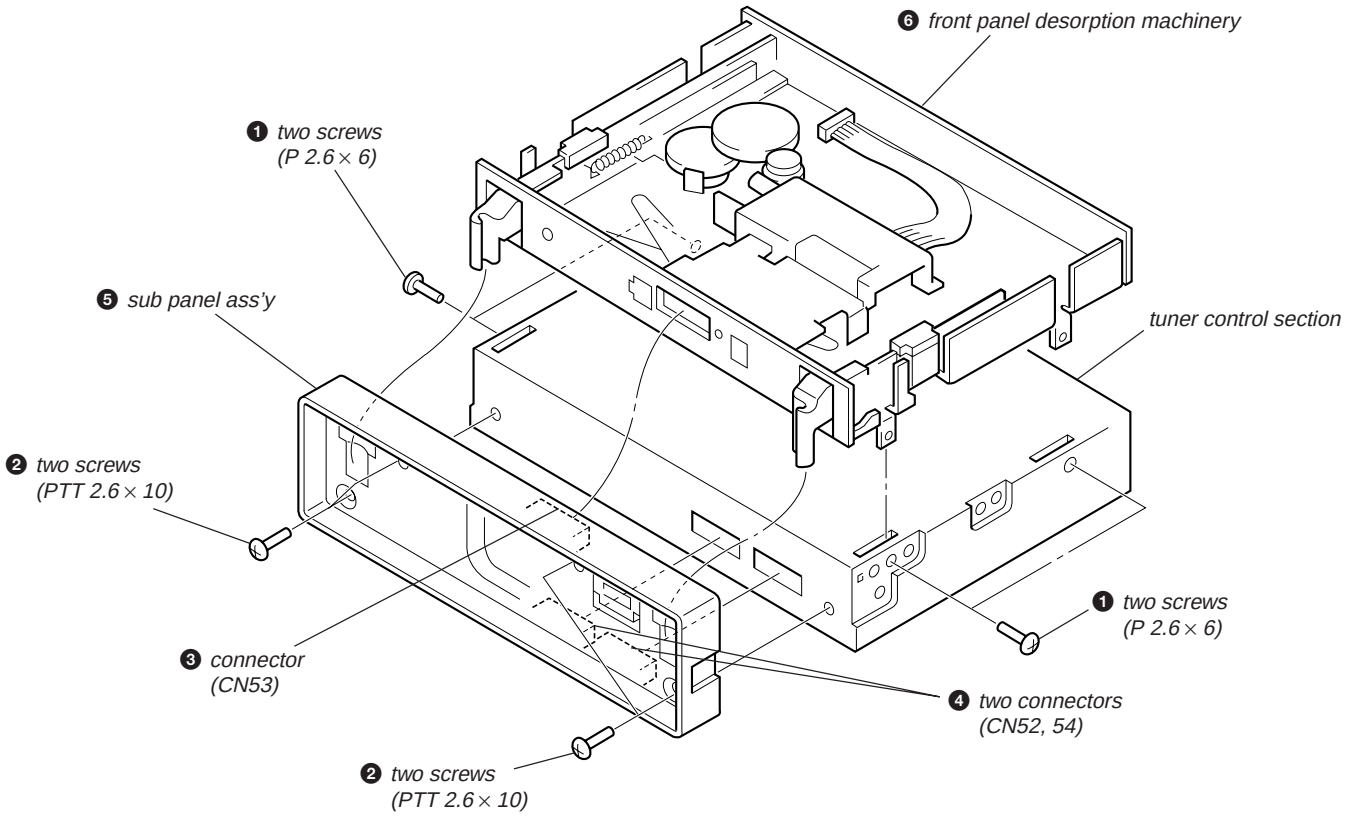
CONTROLLER SECTION
[FRONT PANEL ASS'Y]



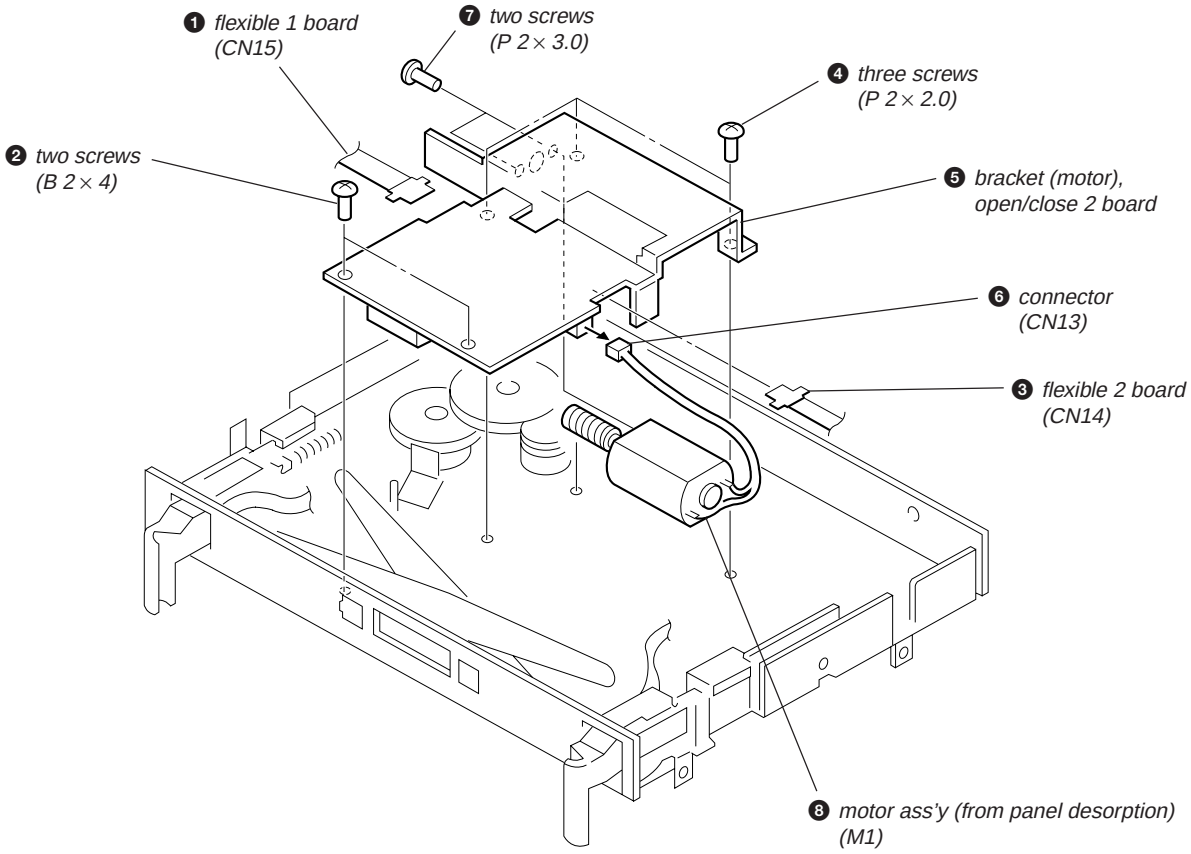
[LIQUID CRYSTAL MODULE]



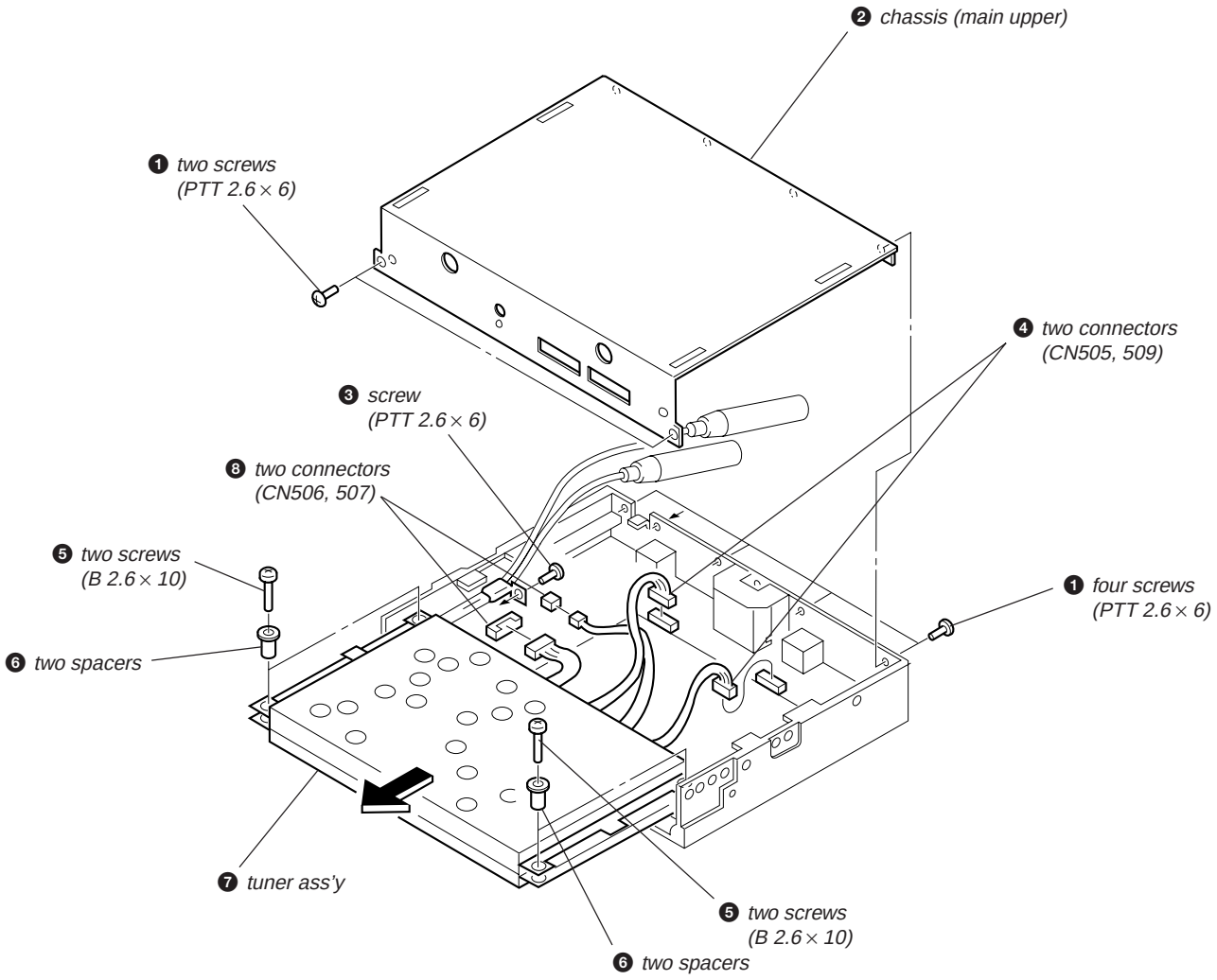
[SUB PANEL ASS'Y, FRONT PANEL DESORPTION MACHINERY]


❻ front panel desorption machinery
❶ two screws (P 2.6× 6)
❺ sub panel ass'y
tuner control section
❷ two screws (PTT 2.6× 10)
❶ two screws (P 2.6× 6)
❸ connector (CN53)
❹ two connectors (CN52, 54)
❷ two screws (PTT 2.6× 10)

[MOTOR ASS'Y (FRONT PANEL DESORPTION) (M1)]


❶ flexible 1 board (CN15)
❼ two screws (P 2× 3.0)
❹ three screws (P 2× 2.0)
❷ two screws (B 2× 4)
❺ bracket (motor), open/close 2 board
❻ connector (CN13)
❸ flexible 2 board (CN14)
❽ motor ass'y (from panel desorption) (M1)

[TUNER ASS'Y]


❷ chassis (main upper)
❶ two screws (PTT 2.6 × 6)
❹ two connectors (CN505, 509)
❸ screw (PTT 2.6 × 6)
❽ two connectors (CN506, 507)
❺ two screws (B 2.6 × 10)
❶ four screws (PTT 2.6 × 6)
❻ two spacers
❼ tuner ass'y
❺ two screws (B 2.6 × 10)
❻ two spacers

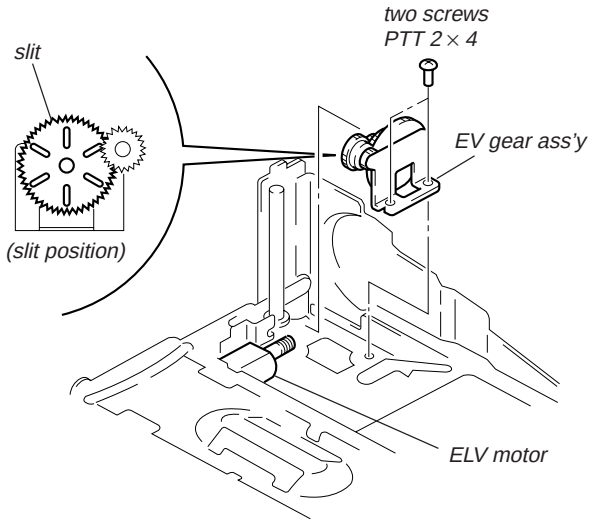
SECTION 4
MECHANICAL ADJUSTMENT

4-1. ELEVATOR HEIGHT ADJUSTMENT

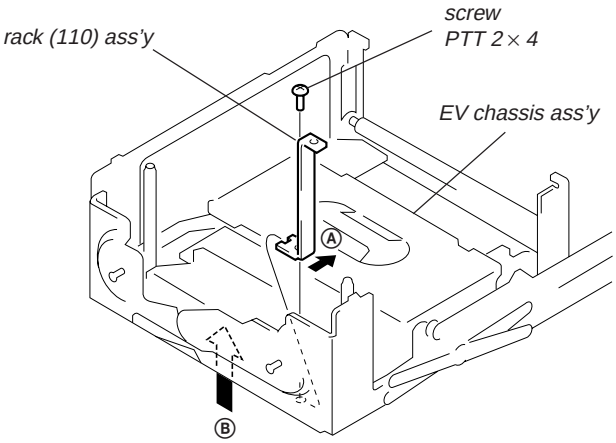
This adjustment should be done when replacing the rack assembly on the parts related to it.

Procedure:

1. Fit the EV gear assembly after adjusting its slit position as shown in the figure. (When the slit position is out of order after fitting, it can be adjusted finely turning the worm gear of the ELV motor.)



2. Fit the rack assembly putting it in the arrow Ⓐ direction. At this time insert a spacer (approx. 1 mm thickness) or fit the rack assembly while pushing the EV chassis assembly in the arrow Ⓑ direction.



Note: When this adjustment is out of order, it doesn't operate normally and the roaring of the motor can be heard. In this case adjust again.

SECTION 5
TEST MODE

This set have the test mode function. In the test mode, FM Auto Scan/Stop Level and AM Auto Scan/Stop Level adjustments can be performed easier than it in ordinary procedure.

Setting the Test Mode

1. Press the [OFF] button on the control unit to turn off the set.
2. Press the following buttons on the wireless remote commander in the given order.

   [▶] → [◀] → [LIST]

3. Press the [BACK] button on the wireless remote commander until a beep sounds (for more than 2 seconds).
4. At the same time as a beep, "Test" is displayed at the upper left of display, and the test mode is activated.

Releasing the Test Mode

1. Press the [OFF] button on the control unit.

Note: All operations except [OFF] button are done with the wireless remote commander.

SECTION 6
ELECTRICAL ADJUSTMENTS

TUNER SECTION | **0dB=1μV**

Cautions during repair
When the tuner unit is defective, replace it by a new one because its internal block is difficult to repair.

Note: Adjust the tuner section in the sequence shown below.

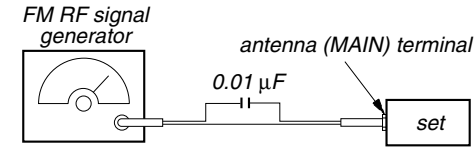
1. FM Auto Scan/Stop Level Adjustment
2. FM Stereo Separation Adjustment
3. FM Noise Focus Adjustment
4. AM Auto Scan/Stop Level Adjustment

- In making adjustment, connect the control unit and changer unit.

FM AUTO SCAN/STOP LEVEL ADJUSTMENT

Setting:

[TUN/AUX] button: FM



Carrier frequency : 97.9 MHz
Output level : 22 dB (12.6 μV)
Mode : mono
Modulation : 1 kHz, 22.5 kHz deviation (30%)

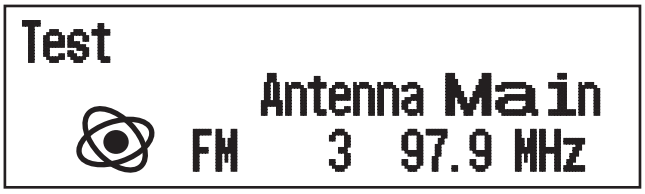
Adjustment Procedure:

1. Set to the test mode.
2. Press the [TUN/AUX] button on the wireless remote commander to select FM.

DISPLAY

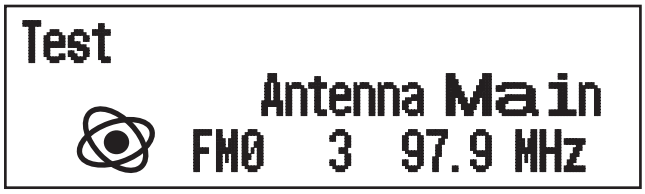
3. Press the [LIST] button on the wireless remote commander to display "PRESET NAME LIST".
4. Using cursor buttons on the wireless remote commander, select preset No.3, and press the [ENTER] button.

DISPLAY



5. Adjust with the volume RV203 on FM/AM tuner unit so that the "FM" indication turns to "FM0" indication on the display window.
   But, in case of already indicated "FM0", turn the RV203 so that put out light "0" indication and adjustment.

DISPLAY

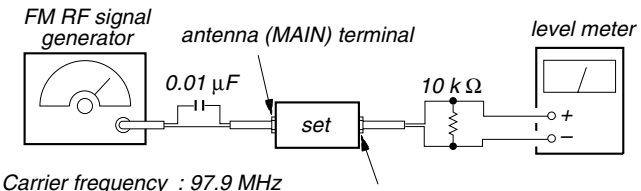


Adjustment Location: Control Unit (FM/AM tuner unit)
(See page 50)

FM STEREO SEPARATION ADJUSTMENT

Setting:

TUN/AUX button : FM



Carrier frequency : 97.9 MHz
Output level : 70 dB (3.2 mV)
Mode : stereo
Modulation : main: 1 kHz, 33.75 kHz deviation (45%)
sub: 1 kHz, 33.75 kHz deviation (45%)
19 kHz pilot: 7.5 kHz deviation (10%)

LINE OUT (FRONT) jack

Adjustment Procedure:

FM Stereo signal generator output channel	Level meter connection	Level meter reading (dB)
L-CH	L-CH	Ⓐ
R-CH	L-CH	Ⓑ Adjust RV204 on FM/AM tuner unit for minimum reading.
R-CH	R-CH	Ⓒ
L-CH	R-CH	Ⓓ Adjust RV204 on FM/AM tuner unit for minimum reading.

L-CH Stereo separation: Ⓐ-Ⓑ
R-CH Stereo separation: Ⓒ-Ⓓ
The separations of both channels should be equal.

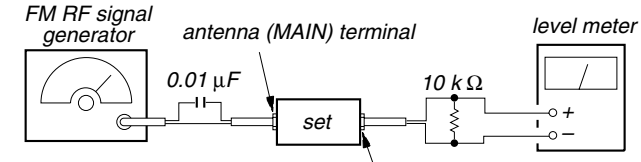
Specification: Separation more than 28 dB

Adjustment Location: Control Unit (FM/AM tuner unit)
(See page 50)

FM NOISE FOCUS ADJUSTMENT

Setting:

TUN/AUX button: FM



Carrier frequency : 97.9 MHz
Output level : 60 dB (1 mV)
Mode : stereo
Modulation : 1 kHz, 75 kHz deviation

LINE OUT (FRONT) jack

Adjustment Procedure:

1. Tune the set to 97.9 MHz.
2. The then output level is supposing than (A) dB.
3. Adjust with the volume RV205 on FM/AM tuner unit so that the output level is (A) –32 dB then signal generator input set to –20 dB.

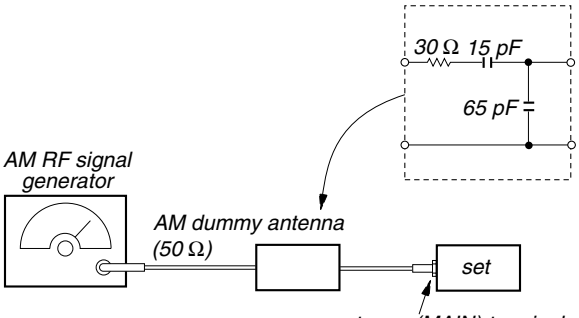
Adjustment Location: Control Unit (FM/AM tuner unit)
(See page 50)

AM AUTO SCAN/STOP LEVEL ADJUSTMENT

Note: Make this adjustment after "FM AUTO SCAN/STOP LEVEL ADJUSTMENT".

Setting:

TUN/AUX button: AM



Carrier frequency : 1000 kHz
30% amplitude modulation by 1 kHz signal
Output level : 33 dB (44.7 µV)

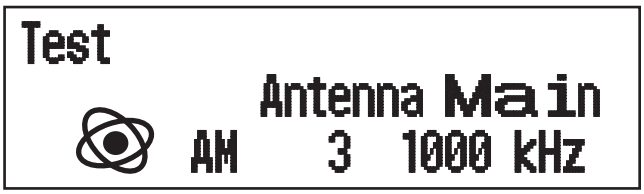
Adjustment Procedure:

1. Set to the test mode. (See page 46.)
2. Press the TUN/AUX button on the wireless remote commander to select AM.

DISPLAY

3. Press the LIST button on the wireless remote commander to display "PRESET NAME LIST".
4. Using cursor buttons on the wireless remote commander, select preset No.3, and press the ENTER button.

DISPLAY



5. Adjust with the volume RV201 on FM/AM tuner unit so that the "AM" indication turns to "AM0" indication on the display window.
   But, in case of already indicated "AM0", turn the RV201 so that put out light "0" indication and adjustment.

DISPLAY

Adjustment Location: Control Unit (FM/AM tuner unit)
(See page 50)

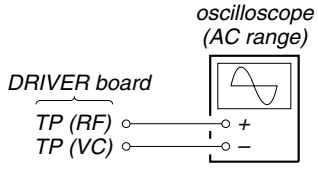
CD SECTION

Notes:
1. Perform adjustments in the order given.
2. Use YEDS-18 disc (Part No.: 3-702-101-01) unless otherwise indicated.
3. Use the oscilloscope with more than 10 MΩ impedance.
4. Power supply voltage requirement: DC 14.4 V (more than 3 A)
5. In making adjustment, connect the control unit and changer unit.

FOCUS BIAS ADJUSTMENT

Condition: This adjustment is performed with the set placed horizontally.

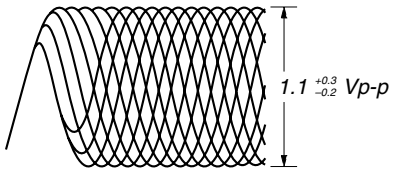
Connection:



Adjustment Procedure:
1. Connect the oscilloscope to TP (RF) and TP (VC) on the DRIVER board.
2. Put the set into play mode by loading the disc (YEDS-18).
3. Adjust the RV102 on the DRIVER board so that the waveform on the oscilloscope (eye pattern) is good.
   (A good eye pattern means that the diamond shape (◇) in the center of the oscilloscope can be clearly distinguished.)

• RF signal reference waveform (eye pattern)

VOLT/DIV : 200 mV (with the 10: 1 probe in use)
TIME/DIV : 0.5 µsec



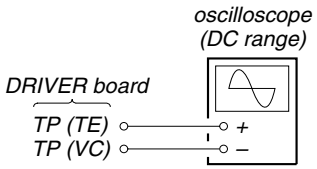
Note: When observing the eye pattern, set the oscilloscope to AC range and raise the vertical sensitivity so that it may be easily seen.

Connection and Adjustment Location: DRIVER board
(See page 50)

TRACKING OFFSET ADJUSTMENT

Condition: This adjustment is performed with the set place horizontally.

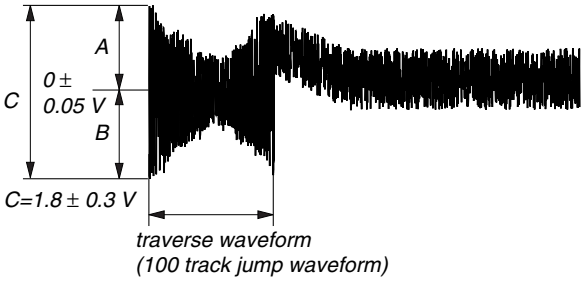
Connection:



Adjustment Procedure:
1. Connect the oscilloscope to TP (TE) and TP (VC) on the DRIVER board.
2. Put the set into play mode by loading the disc (YEDS-18).
3. Press the cursor buttons on the wireless remote commander, observe the traverse waveform *.
4. Adjust the RV101 on the DRIVER board so that the oscilloscope reading is symmetrical in relation to 0 ± 0.05 V.

* Traverse waveform: This is the tracking error waveform appears when crossing the track.

VOLT/DIV : 1 V (with the 10: 1 probe in use)
TIME/DIV : 2 msec
CENTER : 0 ± 0.05 V

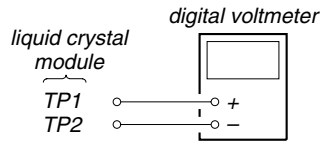


Connection and Adjustment Location: DRIVER board
(See page 50)

DISPLAY SECTION

CONTRAST ADJUSTMENT

Note on adjustment: Adjust the contrast at “8” of 15 steps.
Connection:



Adjustment Procedure:

1. Fix display board and rear panel with screws.
2. Connect the display board and liquid crystal module.
3. Connect the front panel of which status is as shown above to the control unit. (Display will turn on.)
4. After the display turned on, allow ten minutes to elapse, then connect a digital voltmeter to TP1 and TP2 of liquid crystal module.
5. Adjust RV801 on the display board so that the reading of digital voltmeter satisfies the specified value.

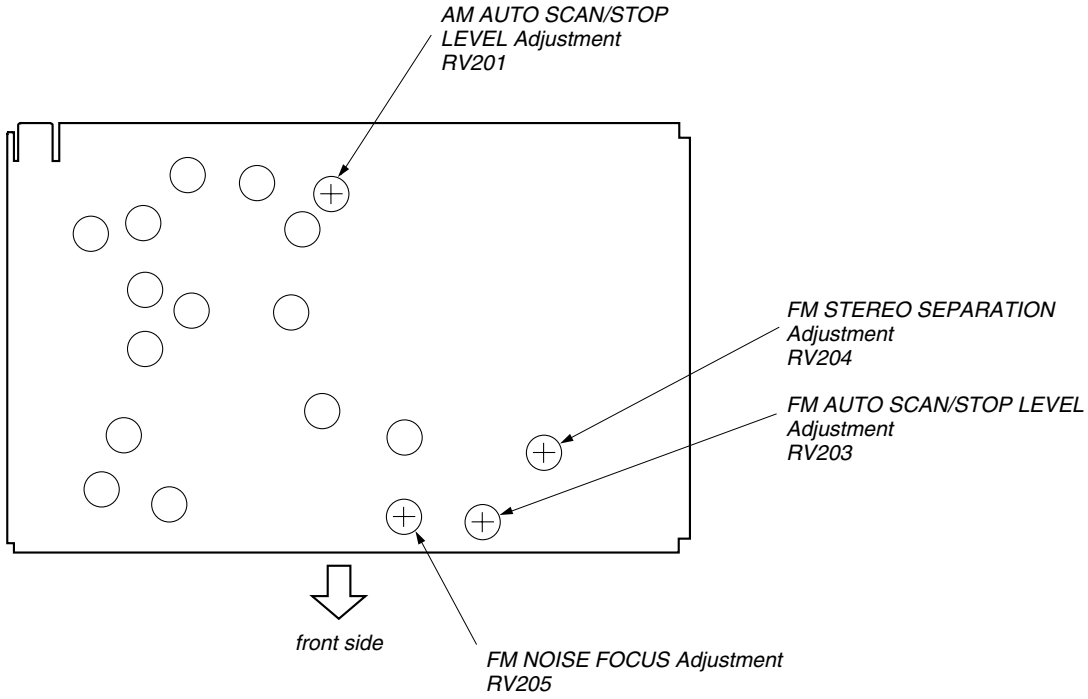
Specified Value: 20.95 V to 21.00 V

Adjustment Location: DISPLAY board (See page 51)

CONNECTION AND ADJUSTMENT LOCATION

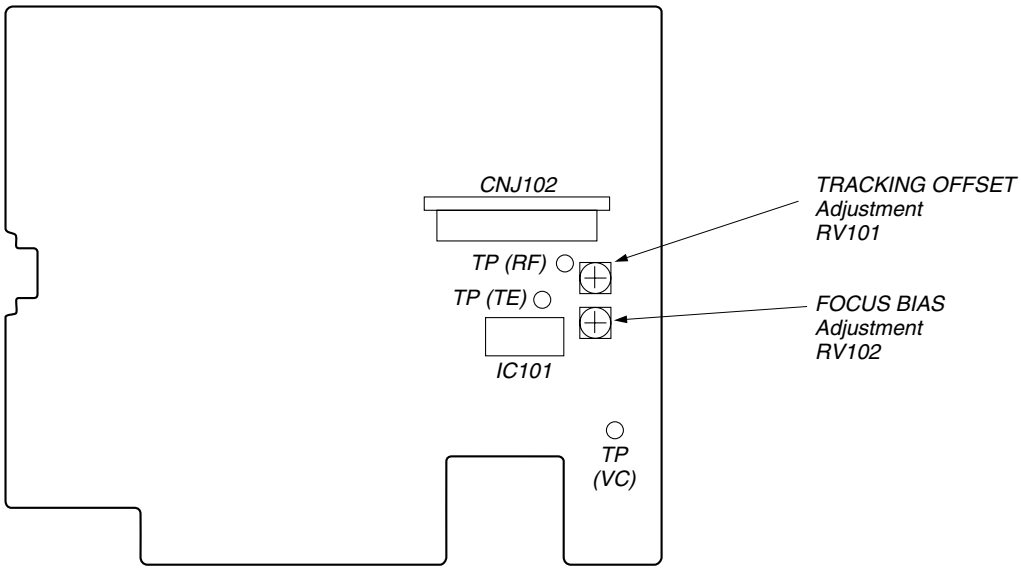
• TUNER Section

– Control Unit (FM/AM Tuner Unit) –



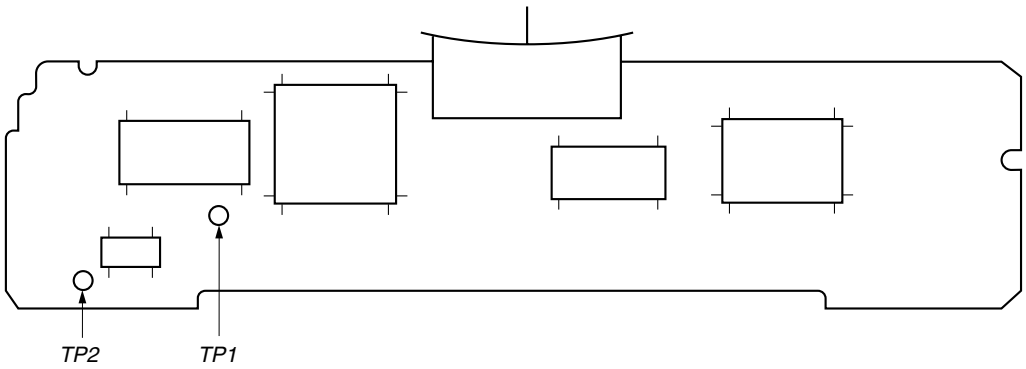
• CD Section

– DRIVER Board (Conductor Side) –

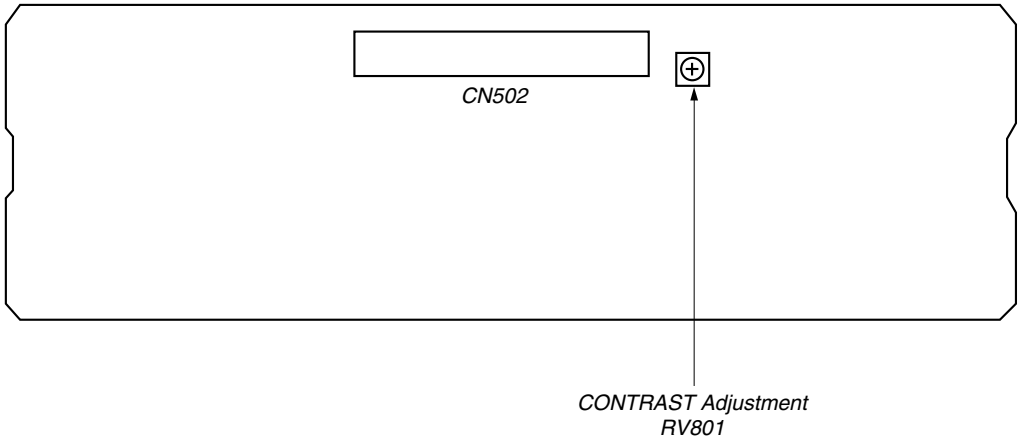


• **DISPLAY Section**

– Liquid Crystal Module –



– DISPLAY Board (Conductor Side) –



SECTION 7
DIAGRAMS

7-1. IC PIN FUNCTION DESCRIPTION

• MAIN BOARD IC501 μPD78P058GC-933-3B9 (SYSTEM CONTROLLER)

Pin No.	Pin Name	I/O	Function
1	ENC –	I	Rotary encoder input from the rotary commander
2	NCO	O	Not used (open)
3	NCO	O	Not used (open)
4	AVSS	—	Ground terminal (for A/D conversion)
5	NCO	O	Not used (open)
6	NCO	O	Not used (open)
7	AVREF1	I	Reference voltage input terminal (+5V) (for D/A conversion)
8	NCO	O	Not used (open)
9	NCO	O	
10	NCO	O	
11	NCO	O	
12	EEP SCK	O	Serial data transfer clock signal output to the EEPROM (IC515)
13	EEP SDA	I/O	Two-way data bus with the EEPROM (IC515)
14	BUSY-MA	O	Not used (open)
15	BUSY-TU	O	Not used (open)
16	UNISI	I	Serial data input from the bus interface (IC503) (for SONY bus)
17	UNISO	O	Serial data output to the bus interface (IC503) (for SONY bus)
18	UNICKI	I	Serial data transfer clock signal input for the bus interface (for SONY bus)
19	UNICKO	O	Serial data transfer clock signal output to the tuner controller (IC502), bus interface (IC503) (for SONY bus), and FM character multiple broadcast display controller (IC802)
20	$\overline{\text{BUS ON}}$	O	Bus on/off control signal output to the tuner controller (IC502), bus interface (IC503) (for SONY bus), and FM character multiple broadcast display controller (IC802) "L": bus on
21	$\overline{\text{SYS RST}}$	O	Reset signal output to the tuner controller (IC502), bus interface (IC503) (for SONY bus), and FM character multiple broadcast display controller (IC802) "L": reset
22	$\overline{\text{KEY ACT}}$	O	Key active control signal output terminal (for A/D conversion power control) When KEY ACK (pin ⑥⑤) is active, "L" is output to enable signal input
23	TX-SEL	O	Not used (open)
24	NCO	O	Not used (open)
25	NCO	O	
26	NCO	O	
27	$\overline{\text{CAUTION}}$	I	Input terminal to set whether a caution alarm (buzzer sounds if the front panel is not removed when accessory power is in off status) sounds or not "H": not sound, "L": sounds (fixed at "L")
28	$\overline{\text{TIMPOL}}$	I	Input terminal to set whether time polling is provided or not "H": provided, "L": none (fixed at "L")
29	$\overline{\text{TEL MUT}}$	I	Telephone mute signal input terminal At input of "L", the signal is attenuated by –20 dB
30	VOL STP	I	Not used (fixed at "L")
31	NCO	O	Not used (open)
32	MUTE	O	Mute control signal output of the tuner audio signal "H": mute on
33	VSS	—	Ground terminal
34	NCO	O	Not used (open)
35	NCO	O	
36	NCO	O	
37	NCO	O	
38	NCO	O	
39	NCO	O	

Pin No.	Pin Name	I/O	Function
40	NCO	O	Not used (open)
41	NCO	O	
42	NCO	O	
43	NCO	O	
44	NCO	O	
45	KEY ILL	O	Output of power on/off control signal for the rotary commander illumination power supply "H": power on
46	$\overline{\text{XTEST}}$	I	Detection input of the personal computer connection "H": When display panel is attached at front panel position "L": When personal computer communication accessory is attached
47	COLOR	O	Selection output of the illumination color Not used (open)
48	ANT REM	O	Antenna remote control signal output terminal At the reception with tuner, "H" is output when power antenna starts
49	TUNER ON	O	Output of power on/off control signal for the tuner power supply "H": tuner on
50	MECHA ON	O	Power on/off control signal output of the front panel attach/remove mechanism circuit "H" is output during front panel attachment or removal operation
51	$\overline{\text{INDASH}}$	I	Input of main unit install position detection "L": Installed in dash board, "H": Installed under seat, etc.
52	$\overline{\text{TESEMOD}}$	I	Input terminal for setting test mode This terminal is read at the reset, and if "L", the test mode is forcibly activated
53	FG	I	Input of front panel attach/remove operation detection During attach/remove operation, pulses of constant interval are input, or in stop status, "L" or "H" is always input
54	$\overline{\text{PNL SW4}}$	I	Detection input of the front panel attach/remove detect switches (S1 and S2) There are two detection switches, and if both are off, "H" is input Or, if either one is on, "L" is input "L": When front panel is attached, "H": When front panel attachment or removal is completed
55	$\overline{\text{PNL SW3}}$	I	Detection input of the front panel position detect switch (S23) "L": When front panel is completely pulled in (completion of attachment)
56	$\overline{\text{PNL SW2}}$	I	Detection input of the front panel position detect switch (S22) "L": When front panel is half pulled in
57	$\overline{\text{PNL SW1}}$	I	Detection input of the front panel position detect switch (S21) "H": When front panel is at the position where it can be attached or removed
58	PNL M–	O	Output of control for front panel attach/remove mechanism drive motor (M1) *1
59	PNL M+	O	Output of control for front panel attach/remove mechanism drive motor (M1) *1
60	$\overline{\text{RESET}}$	I	System reset signal input from the reset signal generator (IC504) and reset switch (S51) (or (S42) when using connector box and display holder) "L": reset For several hundreds msec. after the power supply rises, "L" is input, then it changes to "H" Also, when the reset switch (S51) is pressed, "L" is input
61	SIRCS	I	Sircs signal input from the remote control receiver in display unit
62	BU IN	I	Backup power supply detect signal input from the bus interface (IC503) (for SONY bus)
63	$\overline{\text{ACC IN}}$	I	Accessory power supply detect signal input terminal "L": accessory on
64	NOSE SW	I	Signal input from the front panel attach/remove detect switches (S1 and S2) when the front panel is attached to the control unit There are two detection switches, and if both are off, "H" is input Or, if either one is on, "L" is input "L": When front panel is attached, "H": When front panel attachment or removal is completed Signal is input from the nose detection switch (S41) when connector box and display holder are used "L" is input when the front panel is attached

Pin No.	Pin Name	I/O	Function
65	$\overline{\text{KEY ACK}}$	I	Input of acknowledge signal for key input Input of acknowledge signal to accept FUNCTION and EJECT keys when the power is in off status ON at "L" input
66	$\overline{\text{AUX ON}}$	I	Input of auxiliary input (AUX IN) on/off detection Input terminal to turn on the set simultaneously when an external unit connected to the AUX IN terminal is turned on, if the power of the set is off "L": When external unit is turned on
67	NCO	O	Not used (open)
68	VDD	—	Power supply terminal (+5V)
69	X2	O	Main system clock output terminal (5 MHz)
70	X1	I	Main system clock input terminal (5 MHz)
71	IC	—	Ground terminal
72	XT2	O	Sub system clock output terminal (32.768 kHz)
73	XT1	I	Sub system clock input terminal (32.768 kHz)
74	AVDD	—	Power supply terminal (+5V) (for A/D conversion)
75	AVREF0	I	Reference voltage input terminal (+5V) (for A/D conversion)
76	KEY IN0	I	Key (OFF key) input from the front panel section (A/D input)
77	KEY IN1	I	Key (RELEASE key) input from the front panel section (A/D input)
78	RC IN0	I	Key input from the rotary commander (A/D input)
79	RC IN1	I	Key input from the rotary commander (A/D input)
80	ENC +	I	Rotary encoder input from the rotary commander

*1 Motor control

Operation / Terminal	Stop	When the front panel is being removed	When the front panel is being attached	Brake
PNL M– (pin ⑱)	"L"	"L"	"H"	"H"
PNL M+ (pin ⑲)	"L"	"H"	"L"	"H"

• **MAIN BOARD IC502 MN18P83220S4K (TUNER CONTROLLER)**

Pin No.	Pin Name	I/O	Function
1	A5	O	Address signal output to the external RAM device Not used (open)
2	A4	O	
3	A3	O	
4	A2	O	
5	A1	O	
6	A0	O	
7	VDD	—	Power supply terminal (+5V)
8	X1	I	Main system clock input terminal (8 MHz)
9	X2	O	Main system clock output terminal (8 MHz)
10	GND	—	Ground terminal
11	XTI	I	Sub system clock input terminal Not used (open)
12	XTO	O	Sub system clock output terminal Not used (open)
13	EX1	I	Input terminal for setting microcomputer operation mode (fixed at "L")
14	$\overline{\text{RESET}}$	I	System reset signal input from the system controller (IC501) and reset signal generator (IC504) "L": reset For several hundreds msec. after the power supply rises, "L" is input, then it changes to "H"
15	RDS CLK	I	Serial data transfer clock signal input from the external device Not used (fixed at "L")
16	BU IN	I	Backup power supply detection signal input from the bus interface (IC503) (for SONY bus)
17	$\overline{\text{BUSON}}$	I	Bus on/off detection interrupt signal input from the system controller (IC501) "L": bus on
18	D7	I/O	Two-way data bus with the external RAM device Not used (open)
19	D6	I/O	
20	D5	I/O	
21	D4	I/O	
22	D3	I/O	
23	D2	I/O	
24	D1	I/O	
25	D0	I/O	
26	EEP SCK	O	Serial data transfer clock signal output to the EEPROM (IC516)
27	NCO	O	Not used (open)
28	BUSY-MA	O	Not used (open)
29	BUSY-TU	O	Not used (open)
30	EEP SDA	I/O	Two-way data bus with the EEPROM (IC516)
31	FM AMS IN	I	Not used (fixed at "L")
32	AM ST IN	I	AM stereo detection signal input from the FM/AM tuner unit "L": AM stereo
33	NCO	O	Not used (open)
34	NCO	O	
35	NCO	O	
36	NIL	I	Not used (fixed at "L")
37	NIL	I	Not used (fixed at "L")
38	PLL DI	I	PLL serial data input from the FM/AM tuner unit
39	PLL DO	O	PLL serial data output to the FM/AM tuner unit
40	PLL CKO	O	PLL serial data transfer clock signal output to the FM/AM tuner unit
41	PLL CE	O	PLL chip enable signal output to the FM/AM tuner unit
42	UNIREQ	O	Communication request signal output to the bus interface (IC503) (for SONY bus) "H": communication request
43	LINK OFF	O	Bus on/off control signal output of the bus interface (for SONY bus) Not used (open)

Pin No.	Pin Name	I/O	Function
44	UNICKI	I	Serial data transfer clock signal input from the system controller (IC501)
45	UNISI	I	Serial data input from the bus interface (IC503) (for SONY bus)
46	UNISO	O	Serial data output to the bus interface (IC503) (for SONY bus)
47	VDD	—	Power supply terminal (+5V)
48	AVDD	—	Power supply terminal (+5V) (for A/D conversion)
49	AVREF	I	Reference voltage input terminal (+5V) (for A/D conversion)
50	MS-1	I	Input terminal for PLL IC setting in the FM/AM tuner unit (fixed at "L")
51	MS-0	I	Input terminal for PLL IC setting in the FM/AM tuner unit (fixed at "L")
52	SRAM RST	I	Internal RAM reset detection signal input from the reset signal generator (IC517) Input terminal to check that internal RAM data are not destroyed due to low voltage
53	MUTE SEL	I	Input terminal for setting mute operation (fixed at "L")
54	DST SEL 1	I	Input terminal for setting destination (fixed at "L")
55	DST SEL 0	I	Input terminal for setting destination (fixed at "H")
56	AM VSM	I	AM signal meter voltage detection signal input from the FM/AM tuner unit
57	FM VSM	I	FM signal meter voltage detection signal input from the FM/AM tuner unit
58	AVREF–	I	Reference voltage input terminal (0V) (for A/D conversion)
59	AVSS	—	Ground terminal (for A/D conversion)
60	VSS	—	Ground terminal
61	TU ON	O	Output of power on/off control signal for the tuner system power supply "H": tuner on
62	LO/$\overline{\text{DX}}$	O	Local/DX selection signal output terminal Not used (open)
63	$\overline{\text{SEEK}}$	O	Seek signal output to the FM/AM tuner unit (used for IF count output request, AGC cut etc.) Output level "L" when change the frequency
64	AM ON	O	Output of power on/off control signal for the AM circuit power supply, and FM/AM selection signal output terminal "H": AM on
65	FM ON	O	Output of power on/off control signal for the FM circuit power supply "H": FM on
66	MUTE	O	Mute control signal output to the FM/AM tuner unit "H": mute on
67	AF SEEK	I	AF seek control signal input terminal Not used (fixed at "L")
68	SRAM	I	Chip select signal output to the external RAM device Not used (fixed at "L")
69	A15	O	Address signal output to the external RAM device Not used (open)
70	$\overline{\text{ST}}$/MONO	I/O	Input of FM stereo detection signal from FM/AM tuner unit, and output of forced monaural control signal to FM/AM tuner unit (Commonly used for stereo display input and forced monaural output) FM stereo detection at input of "L", forced monaural at output of "L"
71	SD	I	Station detector detection signal input from the FM/AM tuner unit Stop level for SEEK, BTM, etc. is determined SD is present at input of "H"
72	DIVER	O	Diversity antenna on/off control signal output terminal "H": antenna on
73	MAIN/$\overline{\text{SUB}}$	O	Diversity antenna main/sub select signal output to the FM/AM tuner unit "H": main, "L": sub
74	$\overline{\text{CE}}$	O	Chip select signal output to the external RAM device Not used (open)
75	A11	O	Address signal output to the external RAM device Not used (open)
76	A10	O	
77	A9	O	
78	A8	O	
79	A7	O	
80	A6	O	

• MAIN BOARD IC802 HD6413002F16 (DISPLAY CONTROLLER)

Pin No.	Pin Name	I/O	Function
1	VDD	—	Power supply terminal (+5V)
2	SIRCS	I	Sircs signal input from the remote control receiver in display unit
3	SIRCS	I	Sircs signal input from the remote control receiver in display unit
4	$\overline{\text{DSPL-RST}}$	O	Reset signal output to the display controller (IC901) "L": reset At the power supply, "L" is output to reset the display controller
5	DSPL-ON	O	Output of power on/off control signal for the display circuit power supply "H": power on Besides power on/off control, the display data and reset signal transmission to the display controller (IC901) is controlled at the output of "H"
6	TX-SEL	O	Not used (open)
7	NCO	O	Not used (open)
8	CS-CTL	O	Not used (open)
9	DOWN LOAD	I	"H" is input when external flash memory data are rewritten Normally "L"
10	NIH	I	Reset signal output to the external RAM device Not used (fixed at "H")
11	VSS	—	Ground terminal
12	LCD-TX	O	Transmit data output to the display controller (IC901)
13	UNISO	O	Serial data output to the bus interface (IC503) (for SONY bus)
14	LCD-RX	I	Receive data input from the display controller (IC901)
15	UNISI	I	Serial data input from the bus interface (IC503) (for SONY bus)
16	NCO	O	Not used (open)
17	UNICKI	I	Serial data transfer clock signal input from the system controller (IC501)
18	D0	I/O	Two-way data bus with the flash memory (IC804) and S-RAM (IC805)
19	D1	I/O	
20	D2	I/O	
21	D3	I/O	
22	VSS	—	Ground terminal
23	D4	I/O	Two-way data bus with the flash memory (IC804) and S-RAM (IC805)
24	D5	I/O	
25	D6	I/O	
26	D7	I/O	
27	D8	I/O	
28	D9	I/O	
29	D10	I/O	
30	D11	I/O	
31	D12	I/O	
32	D13	I/O	
33	D14	I/O	
34	D15	I/O	
35	VDD	—	Power supply terminal (+5V)
36	A0	O	Address signal output terminal Not used
37	A1	O	Address signal output to the flash memory (IC804) and S-RAM (IC805)
38	A2	O	
39	A3	O	
40	A4	O	
41	A5	O	
42	A6	O	
43	A7	O	

Pin No.	Pin Name	I/O	Function
44	VSS	—	Ground terminal
45	A8	O	Address signal output to the flash memory (IC804) and S-RAM (IC805)
46	A9	O	
47	A10	O	
48	A11	O	
49	A12	O	
50	A13	O	
51	A14	O	
52	A15	O	
53	A16	O	
54	A17	O	Address signal output to the flash memory (IC804)
55	A18	O	Address signal output to the flash memory (IC804)
56	A19	O	Address signal output terminal This set uses the OR level with chip select signal of ROM-CS (pin ⑨①) as a chip enable signal for the flash memory (IC804)
57	VSS	—	Ground terminal
58	$\overline{\text{WAIT}}$	I	Wait signal input terminal (fixed at "H")
59	$\overline{\text{BREQ}}$	O	Communication request signal output terminal Not used (open)
60	$\overline{\text{BACK}}$	O	Acknowledge output terminal Not used (open)
61	ø	O	System clock output terminal Not used (open)
62	$\overline{\text{STBY}}$	I	Hardware standby signal input terminal (fixed at "H")
63	$\overline{\text{SYSRES}}$	I	System reset signal input from the system controller (IC501) and reset signal generator (IC504) "L": reset For several hundreds msec. after the power supply rises, "L" is input, then it changes to "H"
64	BU-IN	I	Backup power supply detection signal input from the bus interface (IC503) (for SONY bus)
65	VSS	—	Ground terminal
66	EXTAL	I	System clock input terminal (14.745 MHz)
67	XTAL	I	System clock input terminal (14.745 MHz)
68	VDD	—	Power supply terminal (+5V)
69	$\overline{\text{AS}}$	O	Address strobe signal output terminal Not used (open)
70	$\overline{\text{RD}}$	O	Strobe signal output for data reading to the flash memory (IC804) and S-RAM (IC805)
71	$\overline{\text{HWR}}$	O	Strobe signal output for data writing to the flash memory (IC804) and upper byte data writing strobe signal output to the S-RAM (IC805)
72	$\overline{\text{LWR}}$	O	Strobe signal output for data writing to the flash memory (IC804) and lower byte data writing strobe signal output to the S-RAM (IC805)
73	MD0	I	Input terminal for setting microcomputer operation mode (fixed at "L")
74	MD1	I	Input terminal for setting microcomputer operation mode (fixed at "L")
75	MD2	I	Input terminal for setting microcomputer operation mode (fixed at "H")
76	AVDD	—	Power supply terminal (+5V) (for A/D conversion)
77	AVREF	I	Reference voltage input terminal (+5V) (for A/D conversion)
78	AN0	I	Input terminal for the test (fixed at "L")
79	AN1	I	
80	AN2	I	
81	AN3	I	
82	AN4	I	
83	AN5	I	Input terminal for the test (fixed at "L")
84	BU-IN	I	Backup power supply detection signal input from the bus interface (IC503) (for SONY bus)
85	PBS	I	Parking brake detection signal input terminal Not used (fixed at "L")

Pin No.	Pin Name	I/O	Function
86	AVSS	—	Ground terminal (for A/D conversion)
87	$\overline{\text{BUS ON}}$	I	Bus on/off detection interrupt signal input from the system controller (IC501) "L": bus on
88	$\overline{\text{SRAM-CS}}$	O	Chip enable signal output to the S-RAM (IC805)
89	$\overline{\text{DEC-CS}}$	O	Chip enable signal output terminal Not used
90	$\overline{\text{DEC-INT}}$	I	Interrupt signal input terminal Demodulation data are read by detecting a falling edge Not used
91	$\overline{\text{ROM-CS}}$	O	Chip enable signal output to the flash memory (IC804)
92	VSS	—	Ground terminal
93	LCD-BLON	O	Output of power on/off control signal for the back light in display unit "H": power on
94	LINK-OFF	O	Bus on/off control signal output to the bus interface (IC503) (for SONY bus) "L": bus on
95	DEC-ON	O	Output of power on/off control signal for the external device "H": power on Not used (open)
96	$\overline{\text{DEC-CLR}}$	O	Reset signal output terminal "L": reset
97	A23	O	Address signal output terminal Not used (open)
98	A22	O	Address signal output terminal Not used (open)
99	$\overline{\text{X.TEST}}$	I	Input of personal computer connection detection "H": When display panel is attached at front panel position "L": When personal computer communication accessory is attached
100	A20	O	Address signal output terminal Not used (open)

• DISPLAY BOARD IC901 HD6473048-DISP01 (DISPLAY CONTROLLER)

Pin No.	Pin Name	I/O	Function
1	VCC	—	Power supply terminal (+5V)
2	TIR	O	LED drive signal output for the TIR indicator "H": LED on Not used
3	NCO	O	Not used (open)
4	NCO	O	
5	NCO	O	
6	NCO	O	
7	NCO	O	
8	LCD-START	O	Output of command transmission start control signal to the LCD controller for liquid crystal module The OR signal with the busy signal from LCD controller for liquid crystal module is input to the LCD-BUSY (pin ⑨) At the start of command transmission, the signal changes like "L"→"H"→"L" so as to be a start trigger for the LCD controller = DMA controller
9	LCD-BUSY	I	Input of busy signal from the LCD controller for liquid crystal module At the timing of "H"→"L", data transmission to LCD controller for liquid crystal module starts
10	RESO	O	Reset signal output to the external device Not used (pull-up)
11	VSS	—	Ground terminal
12	TX-LCD	O	Transmit data output to the FM character multiple broadcast display controller (IC802)
13	NCO	O	Not used (open)
14	RX-LCD	I	Receive data input from the FM character multiple broadcast display controller (IC802)
15	NCO	O	Not used (open)
16	NCO	O	
17	NCO	O	
18	D0	I/O	Two-way data bus with the flash memory (IC931) and S-RAM (IC932)
19	D1	I/O	
20	D2	I/O	
21	D3	I/O	
22	VSS	—	Ground terminal
23	D4	I/O	Two-way data bus with the flash memory (IC931) and S-RAM (IC932)
24	D5	I/O	
25	D6	I/O	
26	D7	I/O	
27	D8	I/O	Two-way data bus with the flash memory (IC931), S-RAM (IC932), and LCD controller for liquid crystal module
28	D9	I/O	
29	D10	I/O	
30	D11	I/O	
31	D12	I/O	
32	D13	I/O	
33	D14	I/O	
34	D15	I/O	
35	VCC	—	Power supply terminal (+5V)
36	A0	O	Address signal output terminal This set uses this as a control signal to the LCD controller for liquid crystal module
37	A1	O	Address signal output to the flash memory (IC931) and S-RAM (IC932)
38	A2	O	
39	A3	O	

Pin No.	Pin Name	I/O	Function
40	A4	O	Address signal output to the flash memory (IC931) and S-RAM (IC932)
41	A5	O	
42	A6	O	
43	A7	O	
44	VSS	—	Ground terminal
45	A8	O	Address signal output to the flash memory (IC931) and S-RAM (IC932)
46	A9	O	
47	A10	O	
48	A11	O	
49	A12	O	
50	A13	O	
51	A14	O	
52	A15	O	
53	A16	O	
54	A17	O	
55	A18	O	
56	A19	O	
57	VSS	—	Ground terminal
58	NIH	I	Not used (fixed at “H”)
59	NCO	O	Not used (open)
60	NCO	O	Not used (open)
61	Ø	O	System clock output terminal Not used (open)
62	$\overline{\text{STBY}}$	I	Hardware standby signal input terminal (fixed at “H”)
63	$\overline{\text{RES}}$	I	Reset signal input from the display controller (IC802) “L”: reset
64	BU-IN	I	Not used (fixed at “H”)
65	VSS	—	Ground terminal
66	EXTAL	I	System clock input terminal (14.745 MHz)
67	XTAL	I	System clock input terminal (14.745 MHz)
68	VCC	—	Power supply terminal (+5V)
69	$\overline{\text{AS}}$	O	Address strobe signal output terminal Not used (open)
70	$\overline{\text{RD}}$	O	Data reading strobe signal output to the flash memory (IC931) and S-RAM (IC932)
71	$\overline{\text{HWR}}$	O	Also, this is used as strobe signal output for data writing to the flash memory (IC931), strobe signal output for higher byte data writing to the S-RAM (IC932), or latch signal to the LCD controller for liquid crystal module
72	$\overline{\text{LWR}}$	O	Also, this is used as strobe signal output for data writing to the flash memory (IC931), strobe signal output for lower byte data writing to the S-RAM (IC932), or latch signal to the LCD controller for liquid crystal module
73	MD0	I	Input terminal for setting microcomputer operation mode (fixed at “L”)
74	MD1	I	Input terminal for setting microcomputer operation mode (fixed at “H”)
75	MD2	I	Input terminal for setting microcomputer operation mode (fixed at “H”)
76	AVDD	—	Power supply terminal (+5V) (for A/D conversion)
77	AVREF	I	Reference voltage input terminal (+5V) (for A/D conversion)
78	NIL	I	Not used (fixed at “L”)
79	NIL	I	
80	NIL	I	
81	NIL	I	

Pin No.	Pin Name	I/O	Function
82	NIL	I	Not used (fixed at “L”)
83	NIL	I	
84	CONTR	O	Contrast alignment signal output to the liquid crystal module (D/A output)
85	DIMER	O	Back light brightness control signal output to the liquid crystal module (D/A output)
86	AVSS	—	Ground terminal (for A/D conversion)
87	NCO	O	Not used (open)
88	$\overline{\text{SRAM-CS}}$	O	Chip enable signal output to the S-RAM (IC932)
89	NIL	I	Not used (fixed at “L”)
90	$\overline{\text{ROM-CS}}$	O	Chip enable signal output to the flash memory (IC931)
91	BOOT	I	Not used (fixed at “H”)
92	VSS	—	Ground terminal
93	NCO	O	Not used (open)
94	NCO	O	Not used (open)
95	LCD RST	O	Reset signal output terminal “H”: reset Not used (open)
96	NCO	O	Not used (open)
97	BEEP	O	Beep sound drive signal output terminal
98	NCO	O	Not used (open)
99	$\overline{\text{LCD-CS}}$	O	Output of chip enable signal to the LCD controller for liquid crystal module The OR signal with $\overline{\text{HWR}}$ (pin ⑦①) is used as a latch signal to the LCD controller for liquid crystal module “L” is output at the LCD controller data transmission
100	A20	O	Address signal output terminal Not used (open)

• CHANGER BOARD IC301 CXP846P48Q-1-004 (SYSTEM CONTROLLER)

Pin No.	Pin Name	I/O	Function
1	LED	O	LED drive signal output for the eject indicator "L": LED on
2	—	O	Not used (open)
3	—	O	Not used (open)
4	EECLK	O	Serial data transfer clock signal output to the EEPROM (IC302)
5	$\overline{\text{SINGLE}}$	I	Input terminal for setting CD single mode or CD changer mode "L": CD single mode, "H": CD changer mode (fixed at "H")
6	MC	O	Elevator up/down motor (M501) and disc load/save motor (M502) drive signal output to the BA6247FP (IC201) *1
7	MB	O	Elevator up/down motor (M501) drive signal output to the BA6247FP (IC201) *1
8	MA	O	Disc load/save motor (M502) drive signal output to the BA6247FP (IC201) *1
9	PGR	O	Plunger drive signal output for the magazine out
10	M3	O	Disc eject motor (M801) drive signal output to the BA6287F (IC801)
11	$\overline{\text{M3}}$	O	Disc eject motor (M801) drive signal output to the BA6287F (IC801)
12	ELVON	O	Output of power on/off control signal for the CD section main power supply "H": power on
13	$\overline{\text{CDRST}}$	O	Reset signal output to the D-RAM controller (IC401), digital signal processor (IC501), and digital servo processor (IC601) "L": reset
14	XTLSEL	O	Output terminal for setting DSP crystal "H": internal clock, "L": external clock Not used (open)
15	$\overline{\text{APC}}$	O	Laser diode on/off control signal output to the RF amplifier (IC101) "L": laser on
16	DPT	I	Detection input from the disc detect sensor (Q702) Whether a disc is present at the reset processing or load/save processing is detected ("L" is input while a disc is fed)
17	DOE	I	Detection input from the disc detect sensor (Q701) Whether a disc is present at the reset processing or load processing is detected ("L" is input when a disc is above the pickup)
18	CES	I	Detection input from the disc chucking completion detect switch (SW701) "L" is input when disc chucking is completed
19	HOME	I	Detection input from the home/top position detect switch (SW501) "L" is input when elevator is at the home position
20	PST	I	Detection input from the magazine detect switch (SW804) "L": magazine in
21	LOT	I	Detection input from the liner slide lever position detect switch (SW803) "L": magazine in
22	XWRE	O	Enable signal output for data writing to the D-RAM controller (IC401)
23	XRDE	O	Enable signal output for data reading to the D-RAM controller (IC401)
24	XQOK	O	Output of definite subcode Q data to the D-RAM controller (IC401)
25	GRSRST	O	Reset signal output to the D-RAM controller (IC401) At track jump, "H" is output
26	ESPXLT	O	Serial latch signal output to the D-RAM controller (IC401)
27	XSOE	O	Enable signal output for data reading to the D-RAM controller (IC401)
28	SDTI	I	Serial data input from the D-RAM controller (IC401)
29	—	O	Not used (open)
30	$\overline{\text{RESET}}$	I	System reset signal input from the reset signal generator (IC903) and bus interface (IC951) (for SONY bus) "L": reset For several hundreds msec. after the power supply rises, "L" is input, then it changes to "H"
31	XTLI	I	Main system clock input terminal (8 MHz)
32	XTLO	O	Main system clock output terminal (8 MHz)
33	VSS	—	Ground terminal
34	TX	O	Sub system clock output terminal (32.768 kHz) Not used (open)
35	TEX	I	Sub system clock input terminal (32.768 kHz) Not used (fixed at "L")

Pin No.	Pin Name	I/O	Function
36	AVSS	—	Ground terminal (for A/D conversion)
37	AVREF	I	Reference voltage input terminal (+5V) (for A/D conversion)
38	TEMP H	I	Temperature detect thermistor (TH301) input terminal (A/D input) Used for high temperature detection data input (for servo gain compensation)
39	TEMP L	I	Temperature detect thermistor (TH302) input terminal (A/D input) Used for low temperature detection data input (for servo gain compensation)
40	SEL	O	Not used (open)
41	$\overline{\text{TEMP D}}$	I	Input of temperature compensation inhibit "L": inhibit (fixed at "H")
42	—	O	Not used (open)
43	$\overline{\text{RSTO}}$	O	Reset signal output to the CD text decoder (IC303) "L": reset
44	BUSY	I	Busy signal input from the CD text decoder (IC303)
45	$\overline{\text{REQ}}$	I	Request signal input from the CD text decoder (IC303)
46	GRSCOR	I	Subcode sync detection signal input from the D-RAM controller (IC401)
47	EEDATA	I/O	Two-way data bus with the EEPROM (IC302)
48	CCLK	O	Serial data transfer clock signal output to the CD text decoder (IC303)
49	CSO	O	Serial data output to the CD text decoder (IC303)
50	CSI	I	Serial data input from the CD text decoder (IC303)
51	SCK	I	Serial data transfer clock signal input from the bus interface (IC951) (for SONY bus)
52	SI	I	Serial data input from the bus interface (IC951) (for SONY bus)
53	SO	O	Serial data output to the bus interface (IC951) (for SONY bus)
54	BUSON	I	Bus on/off control signal input from the bus interface (IC951) (for SONY bus) "L": bus on (used also to reset standby)
55	EJTKEY	I	Eject switch (SW11) input terminal
56	SCOR	I	Subcode sync (S0+S1) detection signal input from the digital signal processor (IC501)
57	EEINIT	I	Initial reset input of the EEPROM "L": initial reset (fixed at "L")
58	—	O	Not used (open)
59	—	O	Not used (open)
60	WUP	I	Key wake-up input terminal In this set, the signal from EJECT switch (SW11) and bus on signal from the bus interface (IC951) (for SONY bus) are input
61	LOCK	I	Detection input from the magazine lock detect switch (SW802) "H": magazine lock
62	EHS	I	Elevator height detection signal input terminal
63	OPEN	I	Detection input from the door open/close detect switch (SW12) "H": door open, "L": door close
64	B.U.CHECK	I	Backup power supply detection signal input terminal (used also to reset standby)
65	SQCK	O	Clock signal output for subcode Q data reading to the digital signal processor (IC501)
66	SUBQ	I	Subcode Q data input from the digital signal processor (IC501)
67	—	O	Not used (open)
68	CDCLK	O	Serial data transfer clock signal output to the D-RAM controller (IC401) and digital signal processor (IC501)
69	CDXLT	O	Serial latch signal output to the digital signal processor (IC501)
70	CDDATA	O	Serial data output to the D-RAM controller (IC401) and digital signal processor (IC501)
71	SCLK	O	Clock signal output for SENS serial data reading to the digital servo processor (IC601)
72	VDD	—	Power supply terminal (+5V)
73	NC	I	Not used (fixed at "H")
74	A-MUTE	O	Audio mute on/off control signal output terminal "H": mute Not used (open)
75	FOK	I	Focus OK signal input from the digital servo processor (IC601) "L": NG, "H": OK

Pin No.	Pin Name	I/O	Function
76	GFS	I	Guard frame sync signal input from the digital signal processor (IC501) “L”: NG, “H”: OK
77	SENS	I	Count sense signal input from the digital signal processor (IC501)
78	—	O	Not used (open)
79	—	O	
80	—	O	

*1 Elevator up/down motor, disc load/save motor control

Operation / Terminal	Elevator up/down motor (M501)		Disc load/save motor (M502)	
	Elevator up	Elevator down	Disc load	Disc save
MA (pin ⑧)	“L”	“H”	“L”	“H”
MB (pin ⑦)	“L”	“L”	“H”	“H”
MC (pin ⑥)	“H”	“H”	“L”	“L”

• CHANGER BOARD IC303 CXP83413-035Q (CD TEXT DECODER)

Pin No.	Pin Name	I/O	Function
1	NC	O	Not used (open)
2	NC	O	Not used (open)
3	NC	I	Not used (fixed at "L")
4	$\overline{\text{REQ}}$	O	Request signal output to the system controller (IC301)
5	CCLK	I	Serial data transfer clock signal input from the system controller (IC301)
6	CSI	I	Serial data input from the system controller (IC301)
7	$\overline{\text{CSO}}$	O	Serial data output to the system controller (IC301)
8	SCLK	O	Clock signal output for subcode data reading to the digital signal processor (IC501)
9	SSI	I	Subcode data input from the digital signal processor (IC501)
10	NC	O	Not used (open)
11	ADD0	O	Address signal output to the S-RAM (IC304)
12	ADD1	O	
13	ADD2	O	
14	ADD3	O	
15	ADD4	O	
16	ADD5	O	
17	ADD6	O	
18	ADD7	O	
19	RAMSEL	I	Not used (open)
20	DATA0	I/O	Two-way data bus with the S-RAM (IC304)
21	DATA1	I/O	
22	DATA2	I/O	
23	DATA3	I/O	
24	DATA4	I/O	
25	DATA5	I/O	
26	DATA6	I/O	
27	DATA7	I/O	
28	$\overline{\text{RST}}$	I	System reset signal input from the system controller (IC301), reset signal generator (IC903), and bus interface (IC951) (for SONY bus) "L": reset For several hundreds msec. after the power supply rises, "L" is input, then it changes to "H"
29	EXTAL	I	System clock input terminal (10 MHz)
30	XTAL	O	System clock output terminal (10 MHz)
31	VSS	—	Ground terminal
32 to 55	NC	O	Not used (open)
56	BUSY	O	Busy signal output to the system controller (IC301)
57 to 59	NC	O	Not used (open)
60	ADD16	O	Address signal output to the S-RAM (IC304)
61	NC	O	Not used (open)
62	$\overline{\text{CE}}$	O	Chip enable signal output to the S-RAM (IC304)
63	$\overline{\text{WE}}$	O	Write enable signal output to the S-RAM (IC304)
64	ADD8	O	Address signal output to the S-RAM (IC304)
65	ADD9	O	
66	ADD10	O	
67	ADD11	O	
68	ADD12	O	
69	ADD13	O	

Pin No.	Pin Name	I/O	Function
70	VDD	—	Power supply terminal (+5V)
71	NC	O	Not used (open)
72	NC	I	Not used (fixed at “L”)
73	NC	I	Not used (fixed at “H”)
74	ADD14	O	Address signal output to the S-RAM (IC304)
75	ADD15	O	Address signal output to the S-RAM (IC304)
76	SCOR	I	Subcode sync (S0+S1) detection signal input from the digital signal processor (IC501)
77	WFCK	I	Write frame clock (7.35 kHz) signal input from the digital signal processor (IC501)
78	BUCK	I	Backup power supply detection signal input terminal (used also to reset standby)
79	NC	I	Not used (fixed at “L”)
80	NC	I	Not used (fixed at “L”)

• **DSP BOARD IC101 CXD2711Q (DIGITAL SIGNAL PROCESSOR FOR FRONT/REAR SPEAKER)**
IC201 CXD2711Q (DIGITAL SIGNAL PROCESSOR FOR SUB-WOOFER SPEAKER)

Pin No.	Pin Name	I/O	Function
1	VSS	—	Ground terminal
2	CRDY	O	Output of ready signal at serial data transfer to the master controller (IC301) The start cause interruption occurs by a falling edge
3	CCNT	I	Input of control/data from address bus for the master controller (IC301) "L": data input
4	$\overline{\text{XCWR}}$	I	Strobe signal input for data writing from the master controller (IC301) Data are written by a falling edge
5	$\overline{\text{XCRD}}$	I	Strobe signal input for data reading from the master controller (IC301) "L": data read
6	VDD	—	Power supply terminal (+3.3V)
7	CD0	I/O	Two-way data bus (LSB) with the master controller (IC301)
8	CD1	I/O	Two-way data bus with the master controller (IC301)
9	CD2	I/O	
10	CD3	I/O	
11	VSS	—	Ground terminal
12	CD4	I/O	Two-way data bus with the master controller (IC301)
13	CD5	I/O	
14	CD6	I/O	
15	CD7	I/O	Two-way data bus (MSB) with the master controller (IC301)
16	VDD	—	Power supply terminal (+3.3V)
17	$\overline{\text{MUTE}}$	I	Mute control signal input of the audio data "L": mute Not used (fixed at "H")
18	$\overline{\text{CCS}}$	I	Input of chip select signal from address bus for the master controller (IC301)
19	VSS	—	Ground terminal
20	MCKO	O	Master clock signal (18.432 MHz) output terminal Not used (open)
21	VSS	—	Ground terminal
22	XTO	O	System clock signal (33.8688 MHz) output terminal Not used (open)
23	XTI	I	System clock signal (33.8688 MHz) input terminal
24	VSS	—	Ground terminal
25	(BIST)	O	Output terminal for the test Not used (open)
26	(TCK)	O	Output terminal for the test Not used (open)
27	(TDI)	O	Output terminal for the test Not used (open)
28	(TENA1)	O	Output terminal for the test Not used (open)
29	(TDO)	O	Output terminal for the test Not used (open)
30	(VST)	I	Input terminal for the test Not used (fixed at "L")
31	VSS	—	Ground terminal
32	$\overline{\text{RESET}}$	I	Reset signal input from the master controller (IC301) "L": reset
33	BCLK	O	Block clock signal output terminal Not used (open)
34	LRCK	I	L/R sampling clock signal (44.1 kHz) input of the serial in/out data
35	BCK	I	Bit clock signal (2.8224 MHz) input of the serial in/out data
36	VSS	—	Ground terminal
37	SIA	I	Serial audio data input terminal IC101: Serial data (for front speaker) input from the CXD2710R (IC601) IC201: Serial data (for sub-woofer speaker) input from the CXD2710R (IC601)
38	SIB	I	Serial audio data input terminal IC101: Serial data (for rear speaker) input from the CXD2710R (IC601) IC201: Not used (fixed at "L")

Pin No.	Pin Name	I/O	Function
39	SOA	O	Serial audio data output terminal IC101: Serial data (for front speaker) output terminal IC201: Serial data (for sub-woofer speaker) output terminal
40	SOB	O	Serial audio data output terminal IC101: Serial data (for rear speaker) output terminal IC201: Not used (open)
41	VSS	—	Ground terminal
42	TST1	I	Input terminal for the test Not used (fixed at "L")
43	TST2	I	Input terminal for the test Not used (fixed at "L")
44	TST3	I	Input terminal for the test Not used (fixed at "L")
45	TST4	I	Input terminal for the test Not used (fixed at "L")
46	VDD	—	Power supply terminal (+3.3V)
47	TST5	I	Input terminal for the test Not used (fixed at "L")
48	TST6	I	Input terminal for the test Not used (fixed at "L")
49	VSS	—	Ground terminal
50	MD00	I/O	IC101: Two-way data bus (LSB) with the D-RAM (IC102) IC201: Two-way data bus (LSB) with the D-RAM (IC202)
51	VSS	—	Ground terminal
52	MD01	I/O	IC101: Two-way data bus with the D-RAM (IC102) IC201: Two-way data bus with the D-RAM (IC202)
53	MD02	I/O	
54	MD03	I/O	
55	VSS	—	Ground terminal
56	MD04	I/O	IC101: Two-way data bus with the D-RAM (IC102) IC201: Two-way data bus with the D-RAM (IC202)
57	MD05	I/O	
58	MD06	I/O	
59	MD07	I/O	
60	VDD	—	Power supply terminal (+3.3V)
61	VSS	—	Ground terminal
62	MD08	I/O	IC101: Two-way data bus with the D-RAM (IC102) IC201: Two-way data bus with the D-RAM (IC202)
63	MD09	I/O	
64	MD10	I/O	
65	MD11	I/O	
66	VDD	—	Power supply terminal (+3.3V)
67	MD12	I/O	IC101: Two-way data bus with the D-RAM (IC102) IC201: Two-way data bus with the D-RAM (IC202)
68	MD13	I/O	
69	MD14	I/O	
70	MD15	I/O	IC101: Two-way data bus (MSB) with the D-RAM (IC102) IC201: Two-way data bus (MSB) with the D-RAM (IC202)
71	VSS	—	Ground terminal
72	$\overline{\text{RAS}}$	O	IC101: Row address strobe signal output to the D-RAM (IC102) IC201: Row address strobe signal output to the D-RAM (IC202)
73	MA09	O	Address signal output terminal Not used (open)
74	MA10	O	
75	MA11	O	
76	VDD	—	Power supply terminal (+3.3V)
77	MA12	O	Address signal output terminal Not used (open)

Pin No.	Pin Name	I/O	Function
78	MA13	O	Address signal output terminal Not used (open)
79	MA14	O	
80	MA15	O	
81	VSS	—	Ground terminal
82	MA00	O	IC101: Address signal output to the D-RAM (IC102) IC201: Address signal output to the D-RAM (IC202)
83	MA01	O	
84	VSS	—	Ground terminal
85	MA02	O	IC101: Address signal output to the D-RAM (IC102) IC201: Address signal output to the D-RAM (IC202)
86	MA03	O	
87	VDD	—	Power supply terminal (+3.3V)
88	MA04	O	IC101: Address signal output to the D-RAM (IC102) IC201: Address signal output to the D-RAM (IC202)
89	MA05	O	
90	VSS	—	Ground terminal
91	VSS	—	Ground terminal
92	MA06	O	IC101: Address signal output to the D-RAM (IC102) IC201: Address signal output to the D-RAM (IC202)
93	MA07	O	
94	VSS	—	Ground terminal
95	MA08	O	IC101: Address signal output to the D-RAM (IC102) IC201: Address signal output to the D-RAM (IC202)
96	MA16	O	Address signal output terminal Not used (open)
97	MA17	O	Address signal output terminal Not used (open)
98	VDD	—	Power supply terminal (+3.3V)
99	$\overline{\text{WE}}$	O	IC101: Write enable signal output to the D-RAM (IC102) IC201: Write enable signal output to the D-RAM (IC202)
100	$\overline{\text{OE}}$	O	IC101: Output enable signal output to the D-RAM (IC102) IC201: Output enable signal output to the D-RAM (IC202)
101	VSS	—	Ground terminal
102	$\overline{\text{ROM-CE}}$	O	Chip enable signal output terminal Not used (open)
103	$\overline{\text{CAS}}$	O	IC101: Column address strobe signal output to the D-RAM (IC102) IC201: Column address strobe signal output to the D-RAM (IC202)
104	VSS	—	Ground terminal
105	DEND	O	Internal operation monitor output terminal Not used (open)
106	VDD	—	Power supply terminal (+3.3V)
107	PEND	O	Internal operation monitor output terminal Not used (open)
108	ENC0	O	Internal operation monitor output terminal Not used (open)
109	ENC1	O	
110	ENC2	O	
111	VSS	—	Ground terminal
112	STOP	O	Internal operation monitor output terminal Not used (open)
113	HOLD	O	Internal operation monitor output terminal Not used (open)
114	OVF	O	Overflow monitor output terminal at the operation "H": overflow Not used (open)
115	LIM	O	Fixed/float conversion limiter output terminal "H": limiter on Not used (open)
116	BTIA	I	Bit input terminal Not used (fixed at "L")
117	BTIB	I	Bit input terminal Not used (fixed at "L")
118	BTOA	O	Bit output terminal Not used (open)
119	BTOB	O	Bit output terminal Not used (open)
120	VDD	—	Power supply terminal (+3.3V)

• DSP BOARD IC301 HD6473048-DSP01 (MASTER CONTROLLER)

Pin No.	Pin Name	I/O	Function
1	VDD	—	Power supply terminal (+5V)
2	PW-ON	O	Output of power on/off control signal for the system power supply (digital/analog power supply, amp remote etc.) "H": power on
3	S-OUT	O	Serial data output to the EEPROM (IC302), input selector (IC415), digital signal processor (IC601 CXD2710R), and electrical volume (IC1106, 1206, 1306)
4	S-CKO	O	Serial data transfer clock signal output to the input selector (IC415), digital signal processor (IC601 CXD2710R), and electrical volume (IC1106, 1206, 1306)
5	$\overline{\text{DSPRST}}$	O	Reset signal output to the digital signal processor (IC101, 201 CXD2711Q/IC601 CXD2710R), and digital filter (IC1101, 1201, 1301) "L": reset
6	$\overline{\text{2710-CE}}$	O	Chip enable signal output to the digital signal processor (IC601 CXD2710R)
7	EE-CKO	O	Serial data transfer clock signal output to the EEPROM (IC302)
8	$\overline{\text{SP-CE}}$	O	Chip enable signal output to the input selector (IC415)
9	$\overline{\text{DSP-RDY}}$	I	Input of ready signal at data transfer from the digital signal processor (IC101, 201 CXD2711Q) The start cause interruption occurs by a falling edge
10	VPP	I	Not used (fixed at "L")
11	GND	—	Ground terminal
12	S-OUT (TX)	O	UART (Universal Asynchronous Receiver/Transmitter) transmit output of the master bus controller (CN12)
13	UNISO	O	Serial data output to the bus interface (IC306) (for SONY bus)
14	S-IN (RX)	I	UART (Universal Asynchronous Receiver/Transmitter) receive input of the master bus controller (CN12)
15	UNISI	I	Serial data input from the bus interface (IC306) (for SONY bus)
16	NIL	I	Not used (fixed at "L")
17	UNICKI	I	Serial data transfer clock signal input from the bus interface (IC306) (for SONY bus)
18	D0	I/O	Two-way data bus with the flash memory (IC401)
19	D1	I/O	
20	D2	I/O	
21	D3	I/O	
22	VSS	—	Ground terminal
23	D4	I/O	Two-way data bus with the flash memory (IC401)
24	D5	I/O	
25	D6	I/O	
26	D7	I/O	
27	D8	I/O	Two-way data bus with the digital signal processor (IC101, 201 CXD2711Q) and flash memory (IC402)
28	D9	I/O	
29	D10	I/O	
30	D11	I/O	
31	D12	I/O	
32	D13	I/O	
33	D14	I/O	
34	D15	I/O	
35	VDD	—	Power supply terminal (+5V)
36	A0	O	Address signal output terminal In this set, the chip enable signal output to the digital signal processor (IC101 CXD2711Q)
37	A1	O	Address signal output to the flash memory (IC401, 402), and chip enable signal output to the digital signal processor (IC201 CXD2711Q)

Pin No.	Pin Name	I/O	Function
38	A2	O	Address signal output to the flash memory (IC401, 402)
39	A3	O	
40	A4	O	
41	A5	O	
42	A6	O	
43	A7	O	
44	VSS	—	Ground terminal
45	A8	O	Address signal output to the flash memory (IC401, 402)
46	A9	O	
47	A10	O	
48	A11	O	
49	A12	O	
50	A13	O	
51	A14	O	
52	A15	O	
53	A16	O	
54	A17	O	
55	A18	O	
56	A19	O	
57	VSS	—	Ground terminal
58	$\overline{\text{MUTE}}$	O	Relay drive signal output for the speaker protect relay (RY1101, 1201, 1301) At output of “L”, the relay is turned on to apply muting
59	SMUTE	O	Soft mute control signal output to the electrical volume (IC1106, 1206, 1306) “H”: mute on
60	EMP-O	O	Emphasis control signal output to the digital filter (IC1101, 1201, 1301) “H”: emphasis on
61	NCO	O	System clock signal output terminal Not used (open)
62	STBY	I	Standby signal input terminal Fixed at “H” in this set
63	$\overline{\text{SYSRES}}$	I	System reset signal input from the reset signal generator (IC303) and bus interface (IC306) (for SONY bus) “L”: reset For several hundreds msec. after the power supply rises, “L” is input, then it changes to “H”
64	BU-IN	I	Backup power supply detect signal input terminal (used also to reset standby)
65	VSS	—	Ground terminal
66	X-IN	I	System clock input terminal (14.74 MHz)
67	EX-IN	I	System clock input terminal (14.74 MHz)
68	VDD	—	Power supply terminal (+5V)
69	AS	O	Address strobe signal output terminal Not used (open)
70	$\overline{\text{RD}}$	O	Strobe signal output for data reading to the digital signal processor (IC101, 201 CXD2711Q) and flash memory (IC401, 402)
71	$\overline{\text{HWR}}$	O	Strobe signal output for upper byte data writing to the digital signal processor (IC101, 201 CXD2711Q) and flash memory (IC402)
72	$\overline{\text{LWR}}$	O	Strobe signal output for lower byte data writing to the flash memory (IC401)
73	MD0	I	Input terminal for setting microcomputer operation mode (fixed at “L”)
74	MD1	I	Input terminal for setting microcomputer operation mode (fixed at “H”)
75	MD2	I	Input terminal for setting microcomputer operation mode (fixed at “H”)
76	AVDD	—	Power supply terminal (+5V) (for A/D conversion)
77	AVREF	I	Reference voltage input terminal (+5V) (for A/D conversion)
78	NIH	I	Fixed at “H” in this set

Pin No.	Pin Name	I/O	Function
79	DIR-ERR	I	PLL unlock error detection signal input from the digital audio interface receiver (IC502) "H": error
80	EMP-IN	I	Emphasis detection signal input from the digital signal processor (IC501 CXD2540Q) and digital audio interface receiver (IC502) "H": emphasis on
81	VOLMAX	I	Input terminal for the test mode Not used (fixed at "L")
82	DSP-BUSY	I	Input of busy signal at serial data transfer from the digital signal processor (IC601 CXD2710R)
83	DSP-PLL	I	Not used (fixed at "L")
84	BU-IN	I	Backup power supply detection signal input terminal (used also to reset standby)
85	DSP-SI	I	Serial data input from the digital signal processor (IC601 CXD2710R)
86	AVSS	—	Ground terminal (for A/D conversion)
87	$\overline{\text{BUS-ON}}$	I	Bus on/off control signal input from the bus interface (IC306) (for SONY bus) "L": bus on With the bus in off status, standby is cancelled by bus on falling edge
88	$\overline{\text{2711-CE}}$	O	Chip enable signal output to the digital signal processor (IC101, 201 CXD2711Q)
89	$\overline{\text{FROM-CE2}}$	O	Chip enable signal output to the flash memory (IC401, 402)
90	$\overline{\text{FROM-CE1}}$	O	Chip enable signal output to the flash memory (IC401, 402)
91	$\overline{\text{BOOT}}$	I	Input of forced boot mode detection At the reset, if "H" is entered, the boot mode is forcibly activated
92	VSS	—	Ground terminal
93	$\overline{\text{LINKOFF1}}$	O	Bus on/off control signal output to the bus interface (IC951) (for SONY bus) "L": bus on
94	TEND	O	Not used (open)
95	$\overline{\text{LINKOFF2}}$	O	Bus on/off control signal output for the AUX bus control "L": bus on
96	$\overline{\text{LINKOFF3}}$	O	Bus on/off control signal output terminal "L": bus on Not used (open)
97	$\overline{\text{VOLCE0}}$	O	Chip enable signal output to the electrical volume (IC1106) (for front speaker)
98	$\overline{\text{VOLCE1}}$	O	Chip enable signal output to the electrical volume (IC1206) (for rear speaker)
99	$\overline{\text{VOLCE2}}$	O	Chip enable signal output to the electrical volume (IC1306) (for sub-woofer speaker)
100	A20	O	Address signal output to the flash memory (IC401, 402), and control/data output to the digital signal processor (IC101, 201 CXD2711Q)

• DSP BOARD IC601 CXD2710R (DIGITAL SIGNAL PROCESSOR)

Pin No.	Pin Name	I/O	Function
1	AMPIN	I	Loop filter amplifier input for the PLL Not used (fixed at "L")
2	AMPOUT	O	Loop filter amplifier output for the PLL Not used (open)
3	VDD	—	Power supply terminal (+5V)
4	VSS	—	Ground terminal
5	AVSS1	—	Ground terminal (for A/D conversion)
6	VCOC	I	Control signal input for the internal VCO Not used (fixed at "L")
7	AVDD1	—	Power supply terminal (+5V) (for A/D conversion)
8	VCOOUT	O	Signal output of the internal VCO Not used (open)
9	MCK1 (768FS)	I	Master clock signal (768Fs) input terminal Not used (fixed at "H")
10	MCK2 (384FS)	I	Master clock signal (384Fs) input terminal
11	MCKOUT	O	Master clock signal output terminal Not used (open)
12	MCKSEL	I	Input terminal for clock signal setting internal VCO or MCK2 (pin ⑩) Internal VCO used: "L", MCK2 (pin ⑩) used: "H" (fixed at "H")
13	$\overline{\text{MUTE}}$	I	Mute signal input of the serial interface Not used (fixed at "H")
14	DIN	I	Program data serial input from the master controller (IC301)
15	VSS	—	Ground terminal
16	SCK	I	Program data transfer clock signal input from the master controller (IC301)
17	$\overline{\text{CE}}$	I	Program data load input from the master controller (IC301)
18	DOUT	O	Serial data output to the master controller (IC301)
19	BUSY	O	Busy signal at serial data transfer output to the master controller (IC301)
20	$\overline{\text{RESET}}$	I	Reset signal input from the master controller (IC301) "L": reset
21 to 27	TEST	I	Not used (fixed at "L")
28	VDD	—	Power supply terminal (+5V)
29	VSS	—	Ground terminal
30 to 38	TEST	I	Not used (fixed at "L")
39	M1	O	Parallel data (LSB) output terminal Not used (open)
40	VSS	—	Ground terminal
41	M2	O	Parallel data output terminal Not used (open)
42	M3	O	
43	M4	O	
44	M5	O	
45	M6	O	
46	M7	O	
47	M8	O	
48	M9	O	
49	M10	O	
50	M11	O	
51	M12	O	
52	M13	O	
53	VDD	—	Power supply terminal (+5V)
54	VSS	—	Ground terminal
55	M14	O	Parallel data output terminal Not used (open)
56	M15	O	Parallel data output terminal Not used (open)
57	M16	O	Parallel data (MSB) output terminal Not used (open)

Pin No.	Pin Name	I/O	Function
58 to 64	TEST	O	Not used (open)
65	VSS	—	Ground terminal
66 to 74	TEST	O	Not used (open)
75	EBDIR	I	Not used (fixed at “L”)
76	UBDIR	I	Not used (fixed at “L”)
77	D.SEL1	I	Input terminal for data output setting serial out or parallel out (fixed at “L”)
78	VDD	—	Power supply terminal (+5V)
79	VSS	—	Ground terminal
80	D.SEL2	I	Input terminal for data output setting serial out or parallel out (fixed at “L”)
81	TEST	I	Not used (fixed at “L”)
82	TEST	I	Not used (fixed at “L”)
83	AVDD2	—	Power supply terminal (+5V) (for A/D conversion)
84	AVSS2	—	Ground terminal (for A/D conversion)
85	AVDD3	—	Power supply terminal (+5V) (for A/D conversion)
86	AVSS3	—	Ground terminal (for A/D conversion)
87	S3OUT	O	Serial data (1 sampling, 2 channel) output for the sub-woofer speaker
88	S2OUT	O	Serial data (1 sampling, 2 channel) output for the rear side speaker
89	S1OUT	O	Serial data (1 sampling, 2 channel) output for the front side speaker
90	VSS	—	Ground terminal
91	S3DI AD	I	Serial data (1 sampling, 2 channel) input for the tuner or external analog audio signal (ANALOG IN AUX AUDIO)
92	S2DI DIR	I	Serial data (1 sampling, 2 channel) input for the external digital audio signal (DIGITAL IN AUX AUDIO)
93	S1DI CD	I	Serial data (1 sampling, 2 channel) input for the CD
94	BCK	I	Bit clock signal (2.8224 MHz) input of the serial in/out data
95	LRCK	I	L/R sampling clock signal (44.1 kHz) input of the serial in/out data
96	$\overline{\text{LOCK}}$	O	Error signal output of the PLL phase comparator Not used (open)
97	V	O	Divider output for the PLL
98	VAR	I	PLL phase comparator variable input terminal
99	REF	I	PLL phase comparator reference input terminal Not used (fixed at “L”)
100	PD	O	PLL phase comparator charge pump input terminal Not used (open)

7-2. IC201 (BA6247FP-Y) MOTOR DRIVER IC OPERATION

(DRIVER BOARD)

The elevator up/down motor connected between pin ㉒ and pin ⑱ of IC201 is as M501, and the disc load/save motor connected between pin ① and pin ⑱ of IC201 is as M502.
When the IC port logic is pin ㉒ > pin ⑱, pin ① > pin ⑱, the rotating direction of M501 and M502 becomes normal.

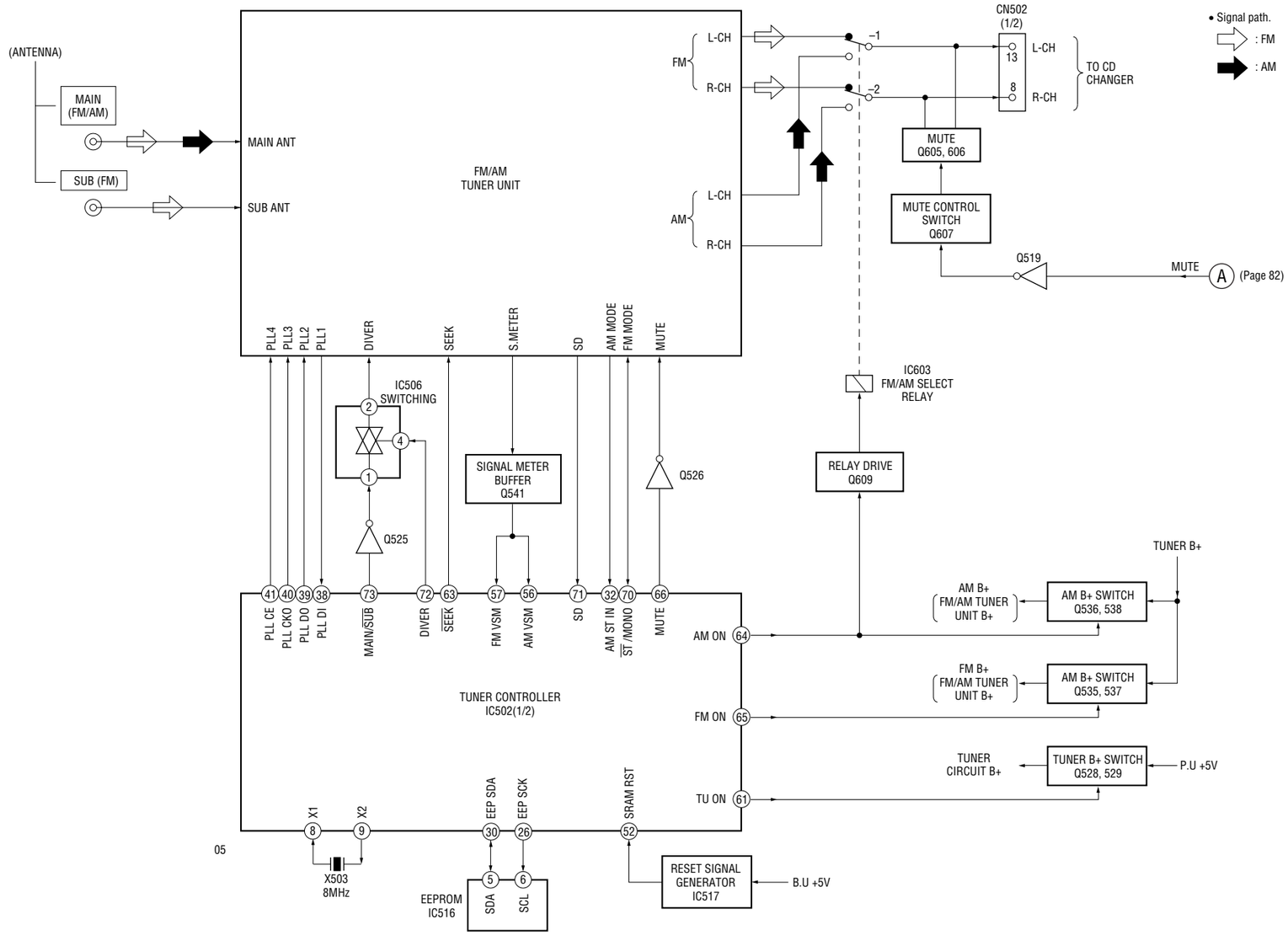
ROTATION TRUTH TABLE

① When MB=MC: both M501 and M502 are stop. (MA value is free.)
② When MB≠MC:

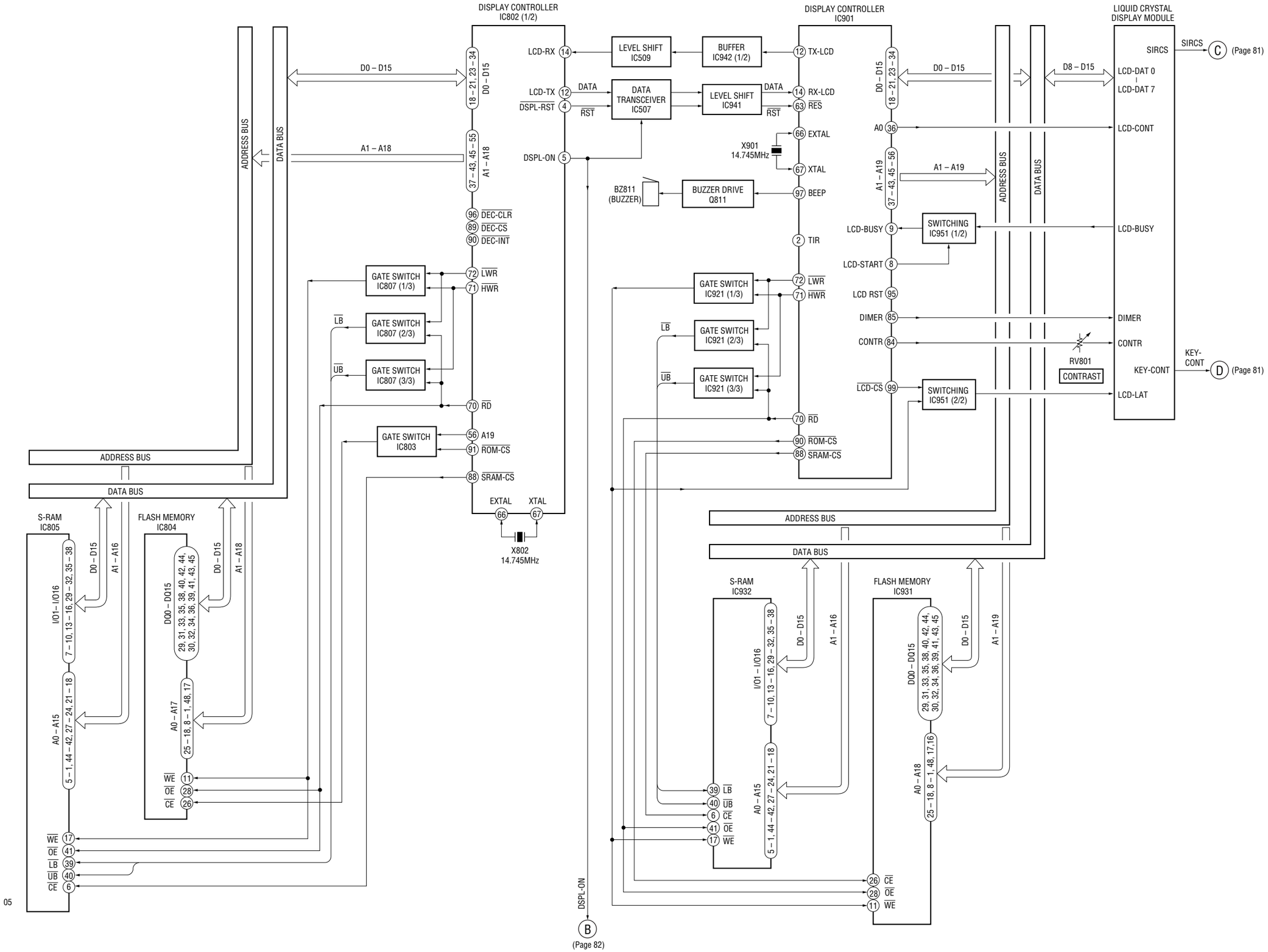
Pin of IC301			Rotating direction of motor		Pin of IC201			Operation
MA (pin ⑧)	MB (pin ⑦)	MC (pin ⑥)	M501	M502	pin ㉒	pin ①	pin ⑱	
"L"	"L"	"H"	Reverse	Stop	"L"	OPEN	"H"	Elevator up
"H"	"L"	"H"	Normal	Stop	"H"	OPEN	"L"	Elevator down
"L"	"H"	"L"	Stop	Reverse	OPEN	"L"	"H"	Disc load
"H"	"H"	"L"	Stop	Normal	OPEN	"H"	"L"	Disc save

XES-Z50

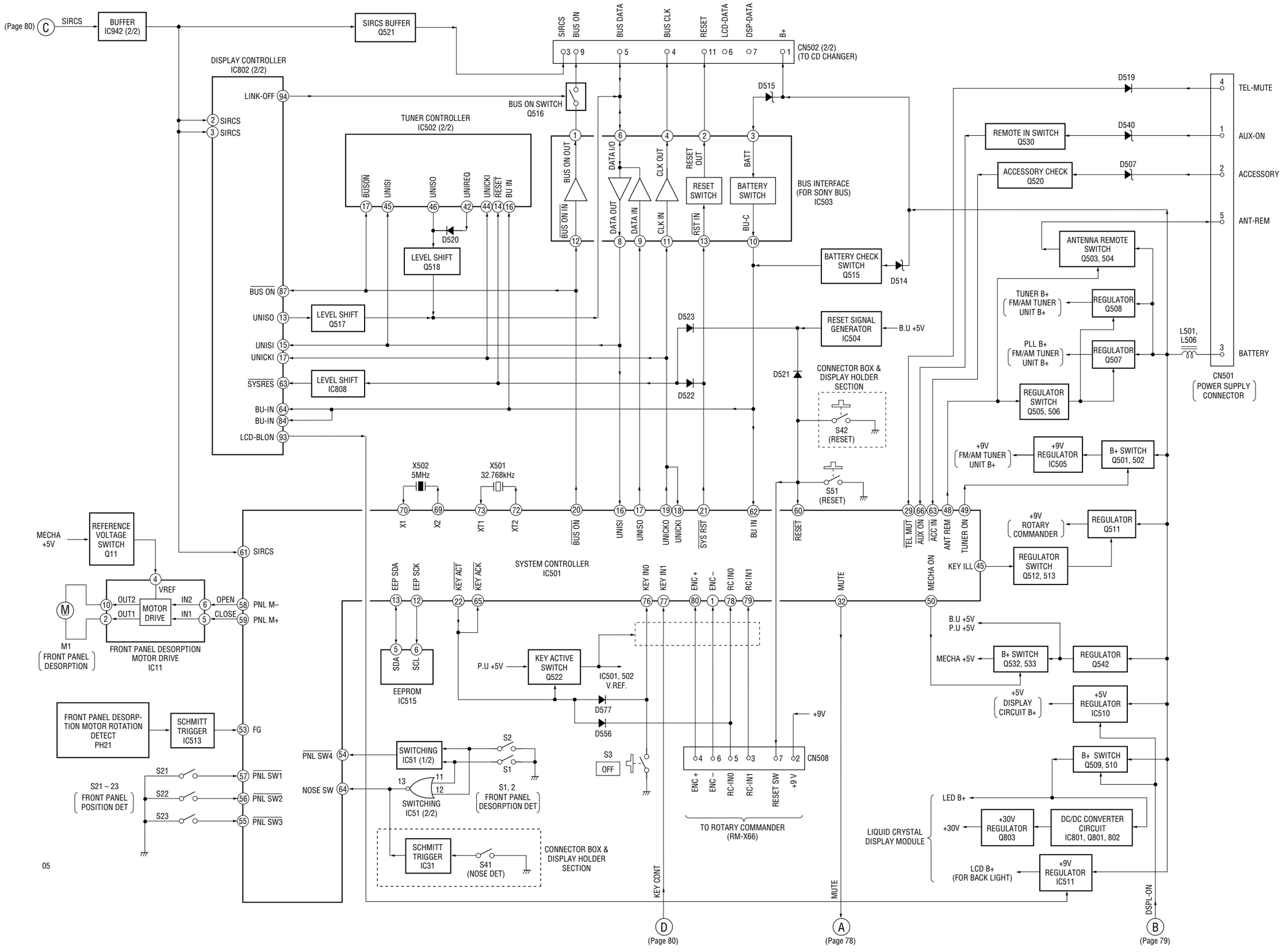
7-3. BLOCK DIAGRAM – CONTROL UNIT (TUNER Section) –



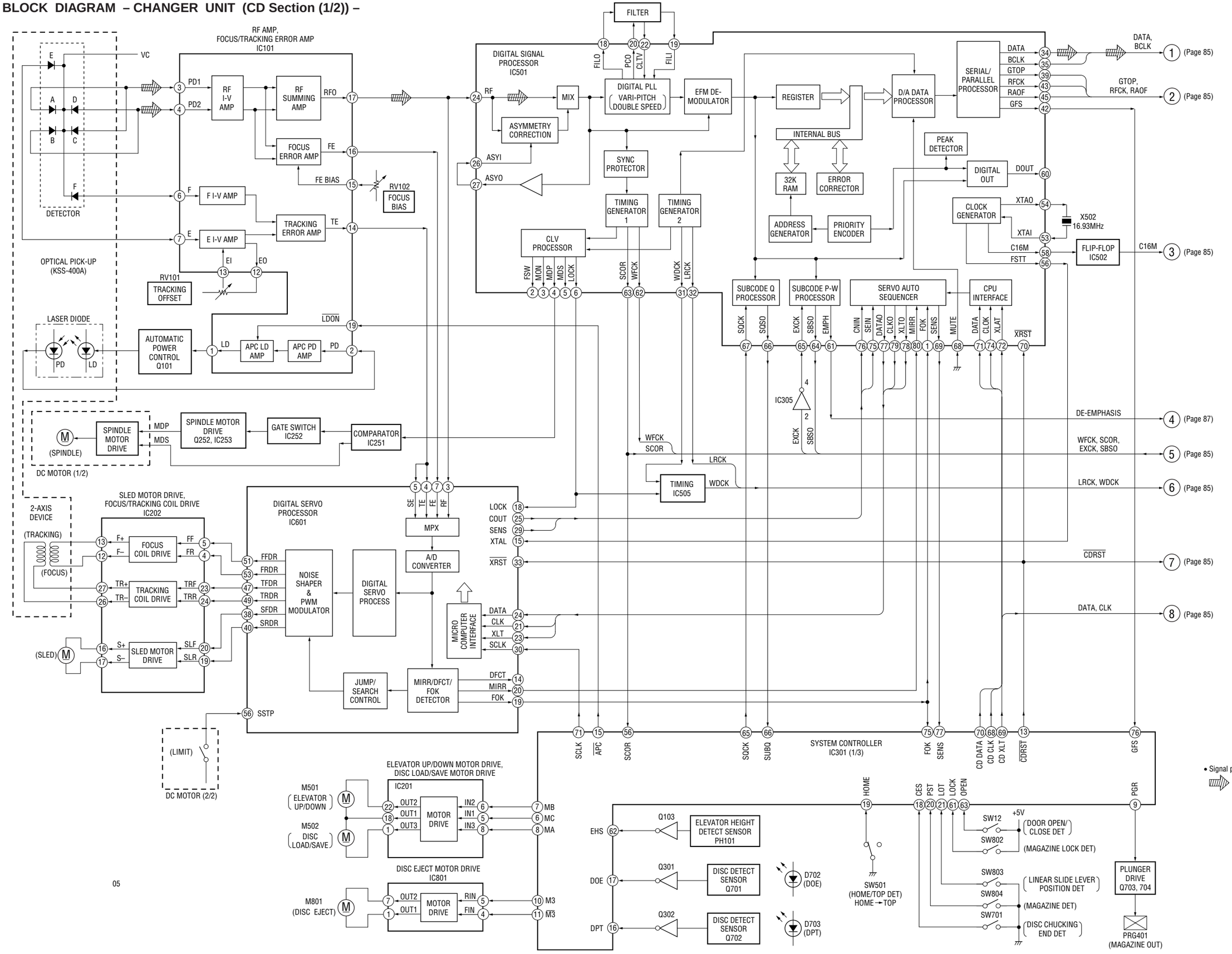
7-4. BLOCK DIAGRAM – CONTROL UNIT (DISPLAY Section)



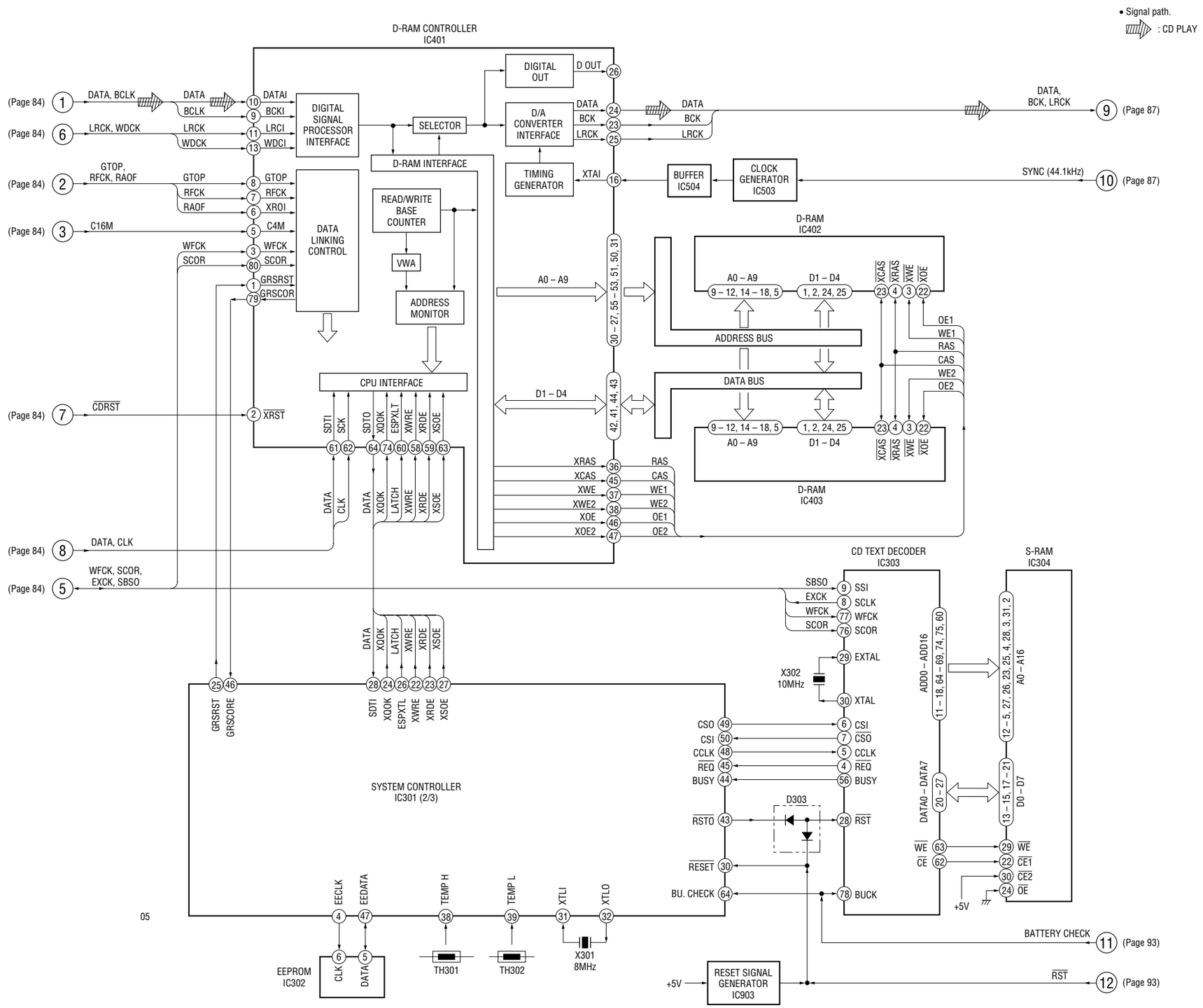
7-5. BLOCK DIAGRAM – CONTROL UNIT (BUS CONTROL/POWER SUPPLY Section) –



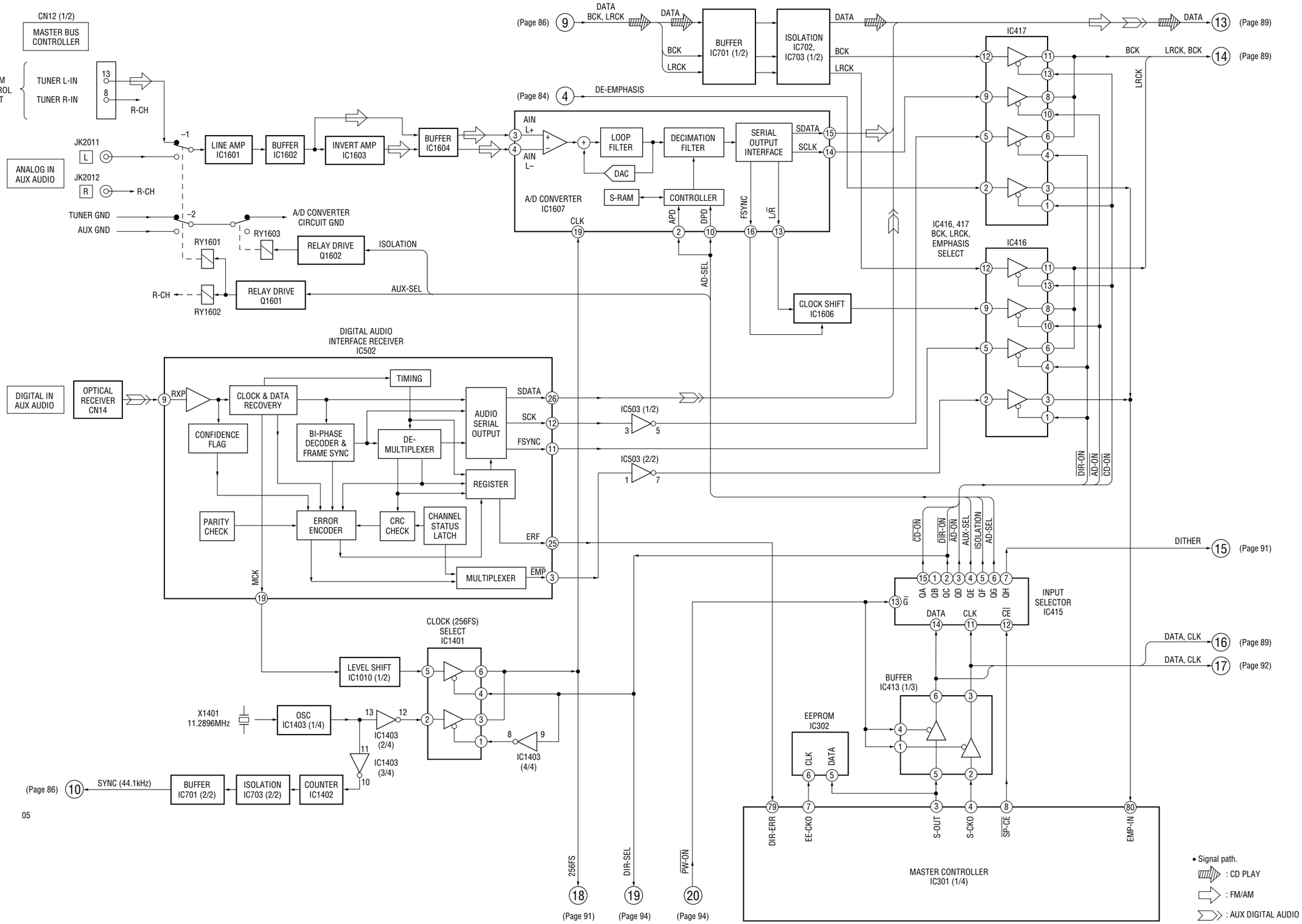
7-6. BLOCK DIAGRAM – CHANGER UNIT (CD Section (1/2)) –



7-7. BLOCK DIAGRAM – CHANGER UNIT (CD Section (2/2)) –

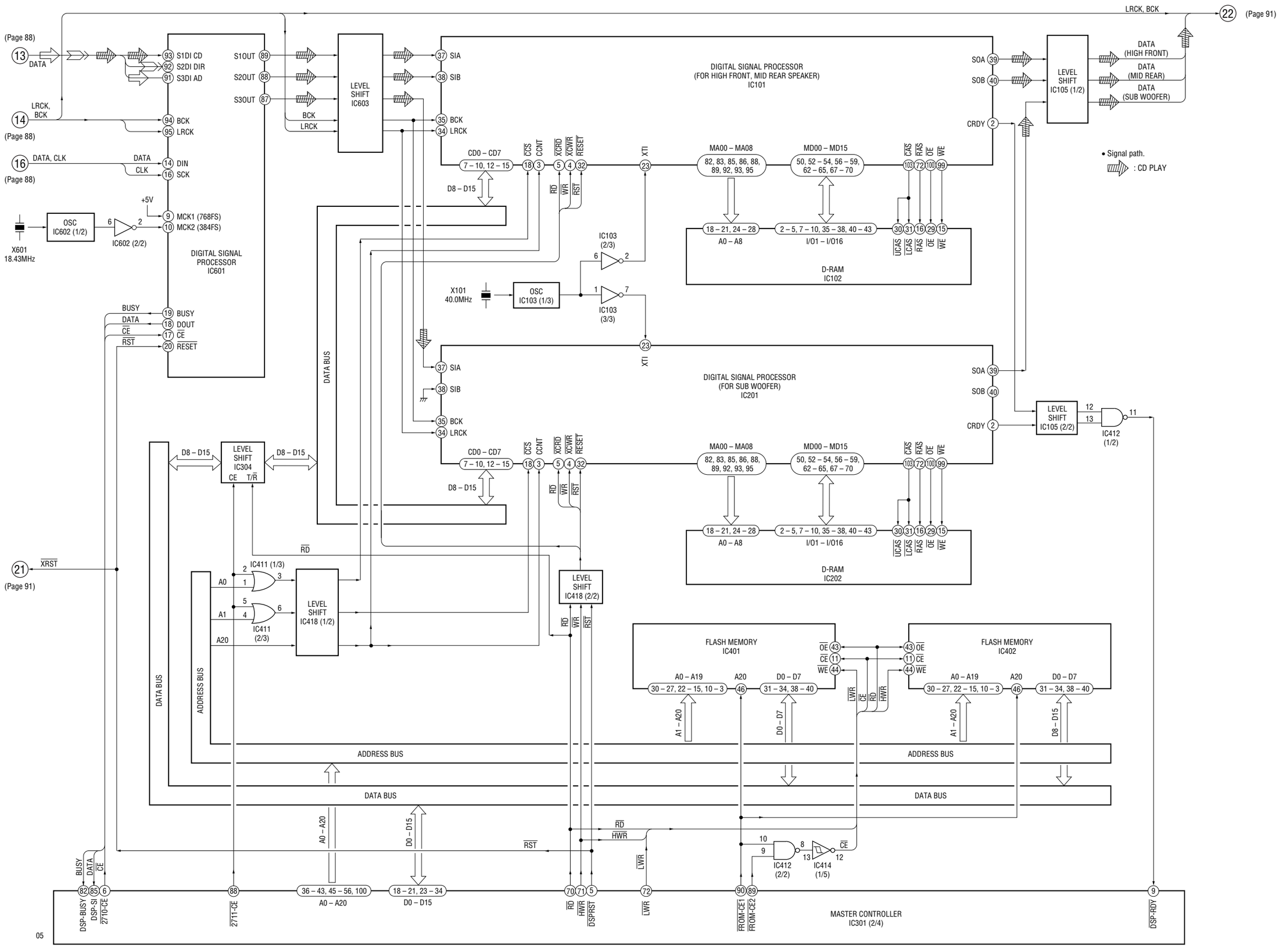


7-8. BLOCK DIAGRAM – CHANGER UNIT (MAIN Section (1/2)) –

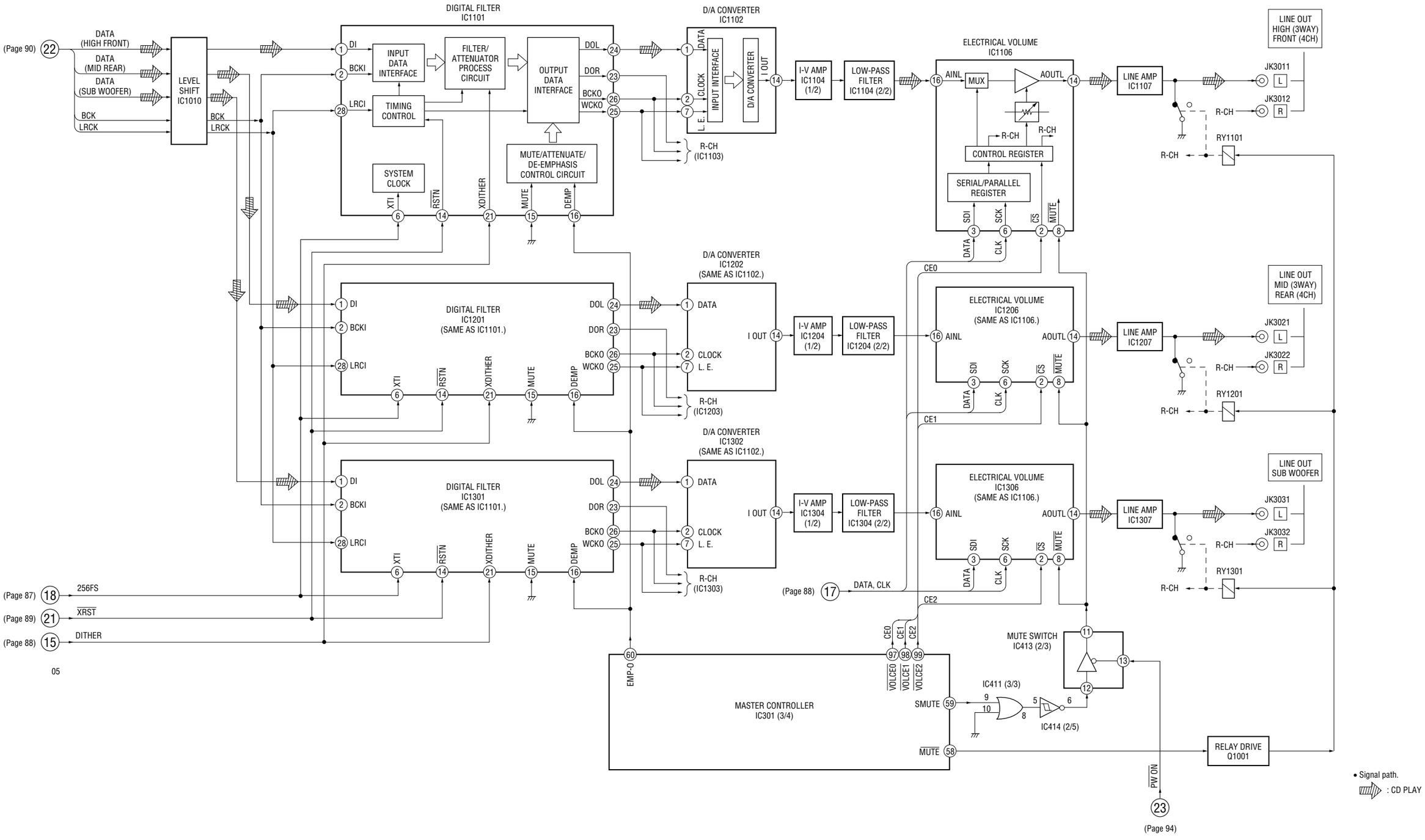


05

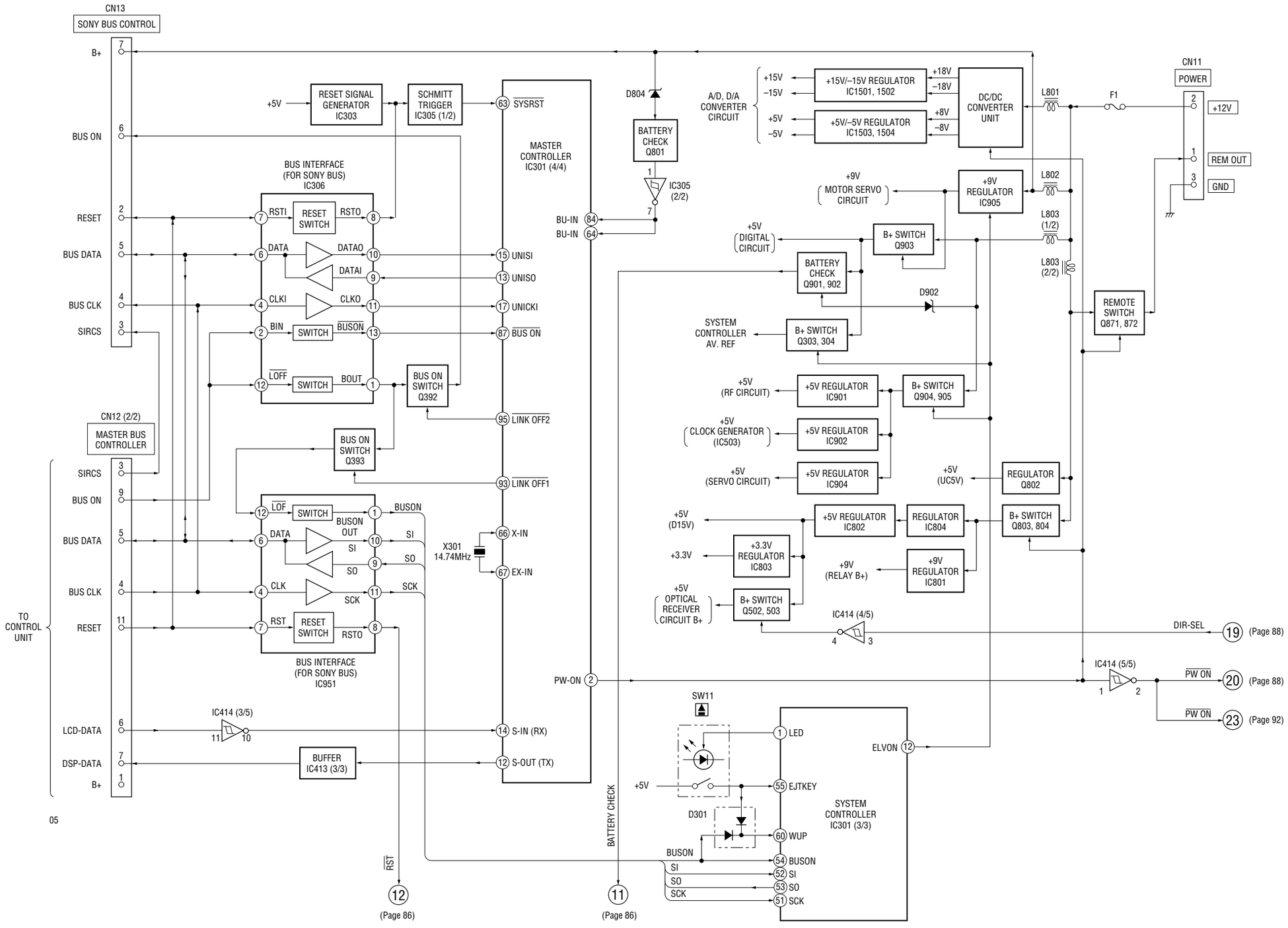
7-9. BLOCK DIAGRAM – CHANGER UNIT (MAIN Section (2/2)) –



7-10. BLOCK DIAGRAM – CHANGER UNIT (D/A CONVERTER Section) –

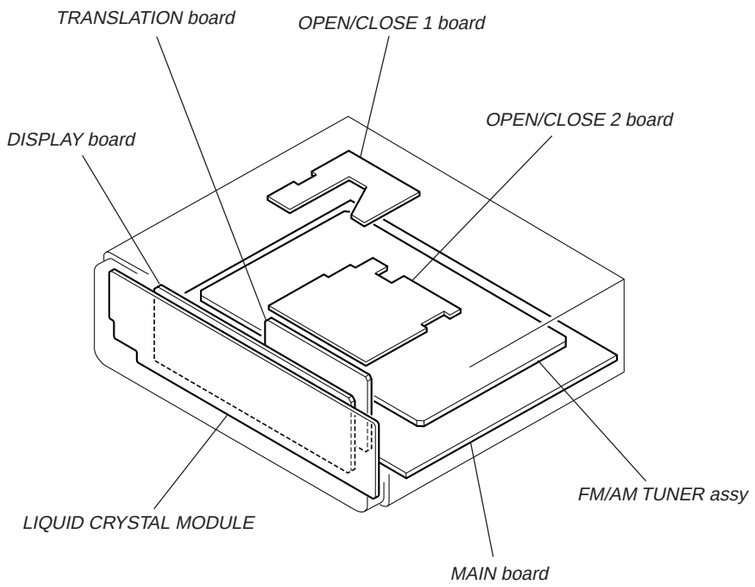


7-11. BLOCK DIAGRAM – CHANGER UNIT (BUS CONTROL/POWER SUPPLY Section) –

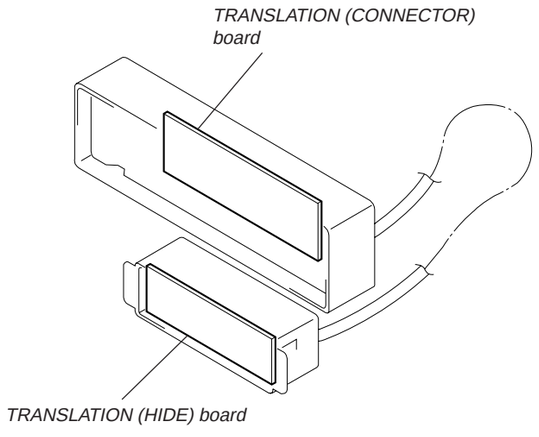


• Circuit Boards Location

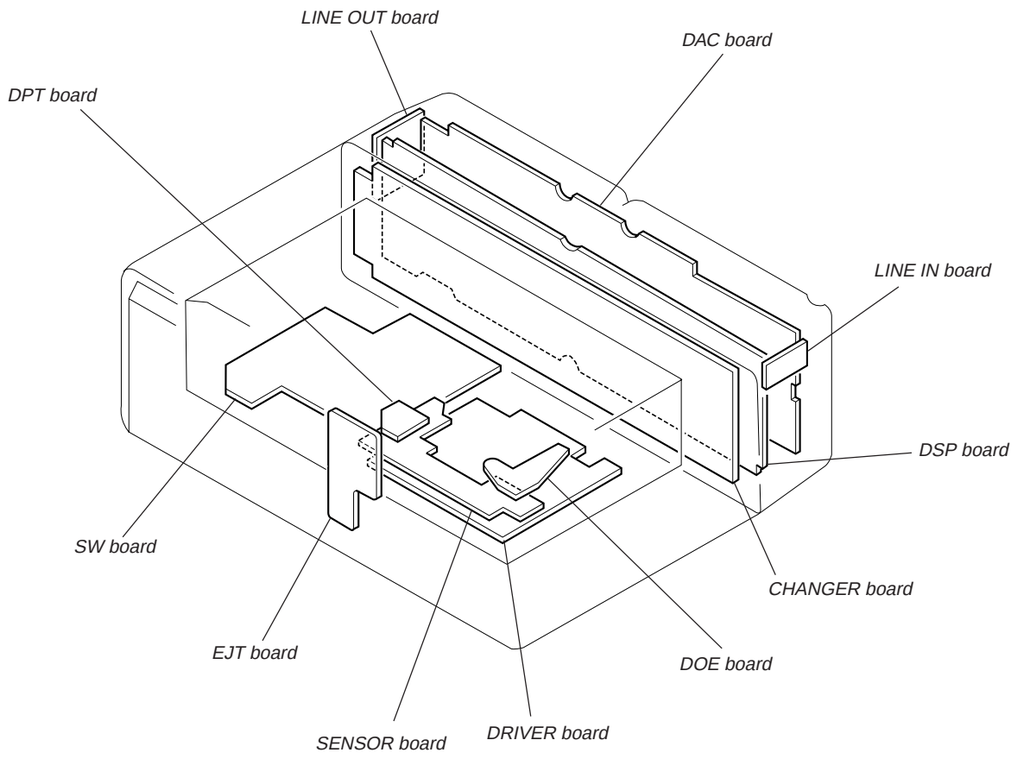
– CONTROL UNIT –



– CONNECTOR BOX & DISPLAY HOLDER SECTION –



– CHANGER UNIT –



7-12. PRINTED WIRING BOARD – CONTROL UNIT (MAIN Section) –

• See page 95 for Circuit Boards Location.

• Semiconductor Location

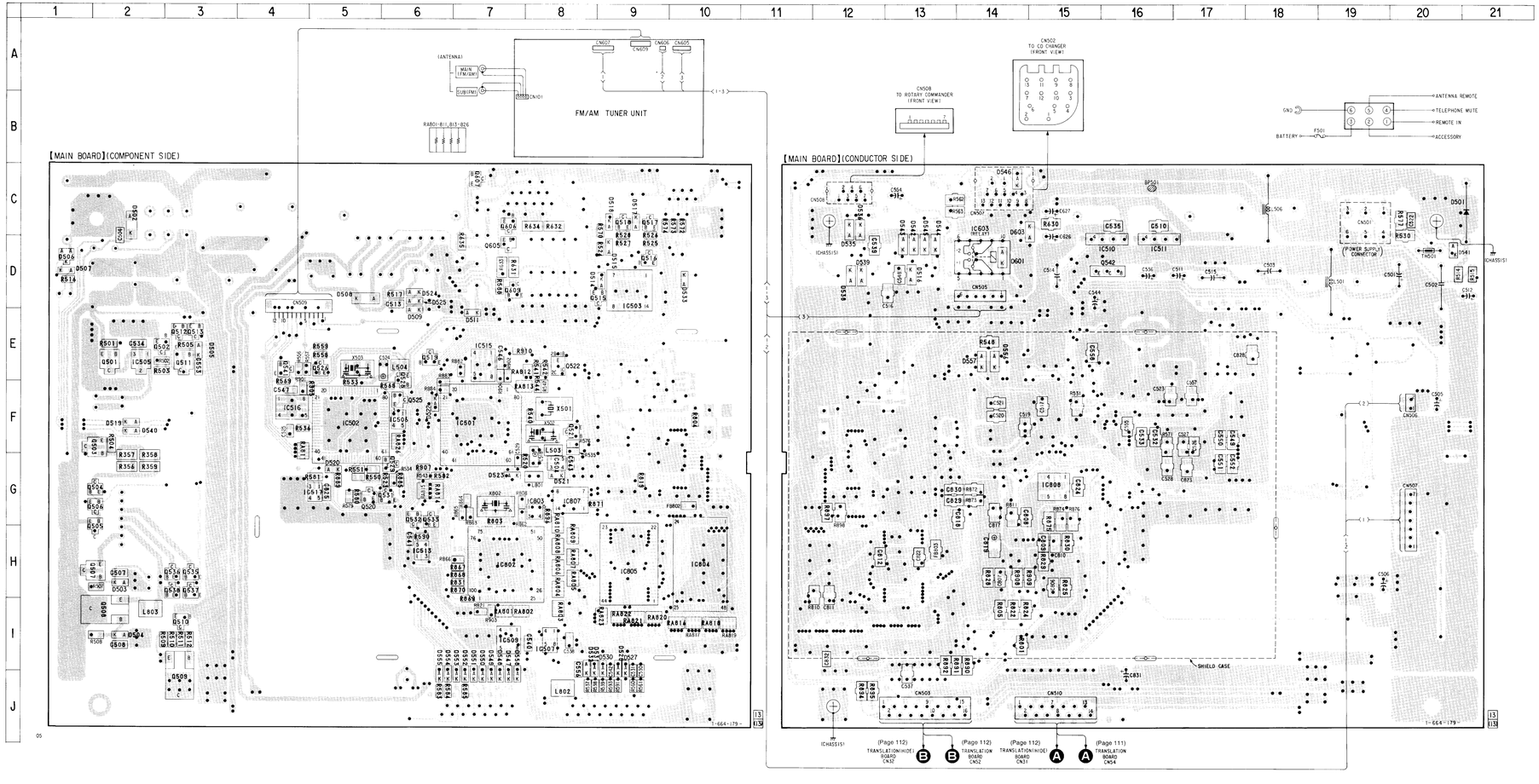
Ref. No.	Location	Ref. No.	Location
D501	C-21	IC504	G-8
D502	C-2	IC505	E-2
D503	H-2	IC506	F-6
D504	I-2	IC507	I-8
D505	E-3	IC509	I-7
D506	D-1	IC510	C-16
D507	D-1	IC511	C-16
D508	D-5	IC513	H-6
D509	E-6	IC515	E-7
D511	E-7	IC516	F-4
D514	D-9	IC517	G-5
D515	D-9	IC603	D-14
D516	D-13	IC802	H-7
D517	C-9	IC803	G-8
D518	C-9	IC804	H-10
D519	F-2	IC805	H-9
D520	G-5	IC807	G-8
D521	G-8	IC808	G-15
D522	F-6		
D523	G-7	Q501	E-2
D524	D-6	Q502	E-2
D525	D-6	Q503	F-2
D527	I-9	Q504	G-2
D528	I-9	Q505	H-2
D530	I-9	Q506	G-2
D531	I-8	Q507	H-2
D532	I-8	Q508	I-2
D533	D-10	Q509	J-3
D535	C-12	Q510	I-3
D536	C-12	Q511	E-3
D538	D-12	Q512	E-3
D539	D-12	Q513	E-3
D540	F-2	Q515	D-9
D541	D-21	Q516	D-9
D542	D-13	Q517	C-9
D543	D-13	Q518	C-9
D544	D-13	Q519	E-6
D545	D-13	Q520	G-5
D546	C-14	Q521	F-8
D547	I-7	Q522	E-8
D548	I-7	Q525	F-6
D549	I-7	Q526	E-5
D550	I-7	Q528	E-6
D551	I-7	Q529	G-6
D552	I-7	Q531	G-6
D553	I-7	Q532	G-6
D554	I-6	Q533	G-6
D555	I-6	Q535	H-3
D556	E-14	Q536	H-3
D557	E-14	Q537	H-3
D558	I-7	Q538	H-3
D601	D-14	Q541	E-4
D603	C-15	Q542	D-16
		Q605	D-7
IC501	F-7	Q606	C-7
IC502	F-5	Q607	C-7
IC503	D-9	Q609	D-7

Notes on Printed Wiring Board:

- ○——○ : parts extracted from the component side.
- ——— : parts extracted from the conductor side.
- ● : Through hole.
- △ : internal component.
- ▒▒▒ : Pattern from the side which enables seeing.

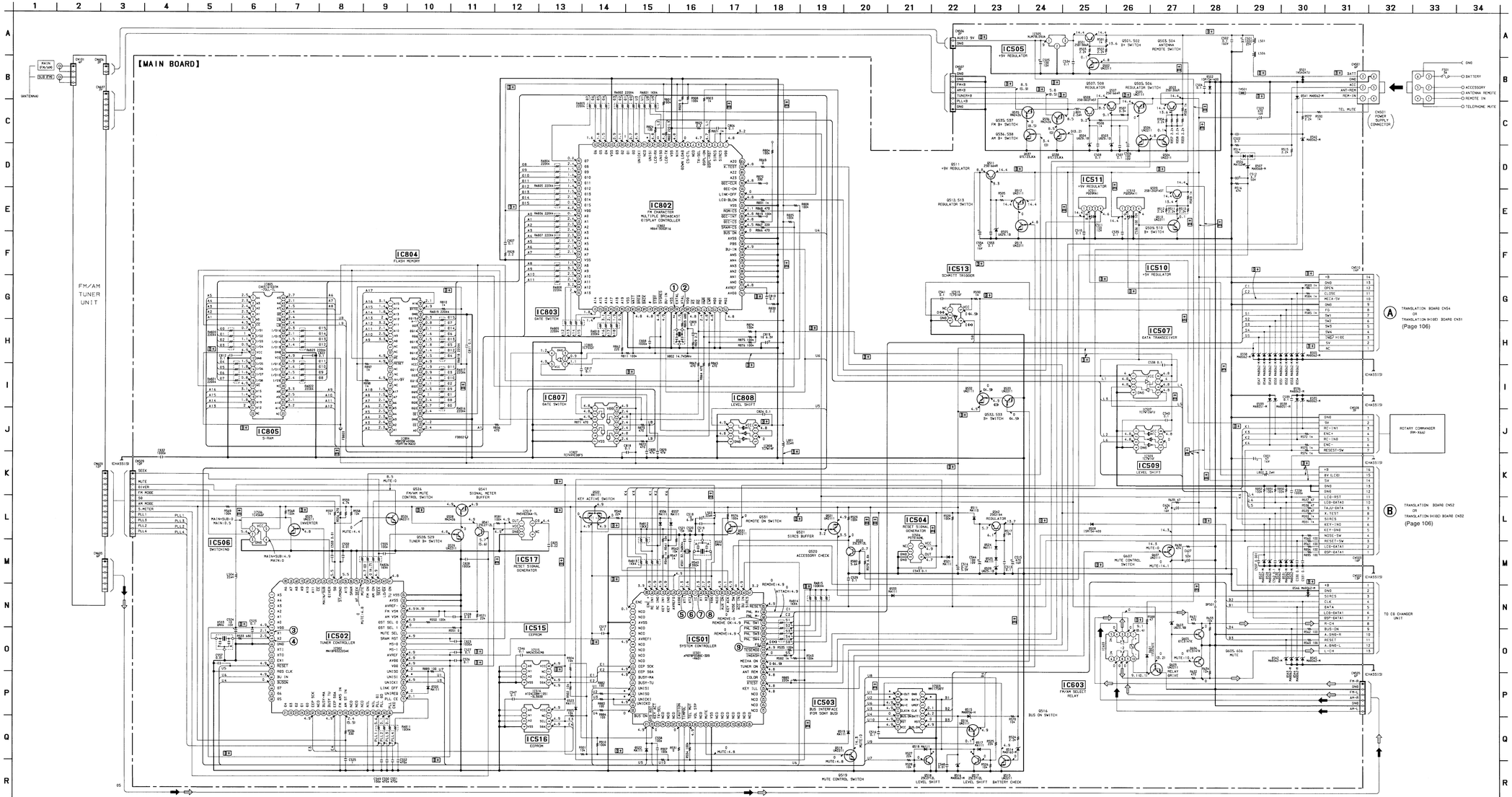
(The other layers' patterns are not indicated.)

Caution:	
Pattern face side: (Conductor Side)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Component Side)	Parts on the parts face side seen from the parts face are indicated.



7-13. SCHEMATIC DIAGRAM – CONTROL UNIT (MAIN Section) –

• See page 150 for Waveforms, see page 158 for IC Block Diagrams.



Note on Schematic Diagram:

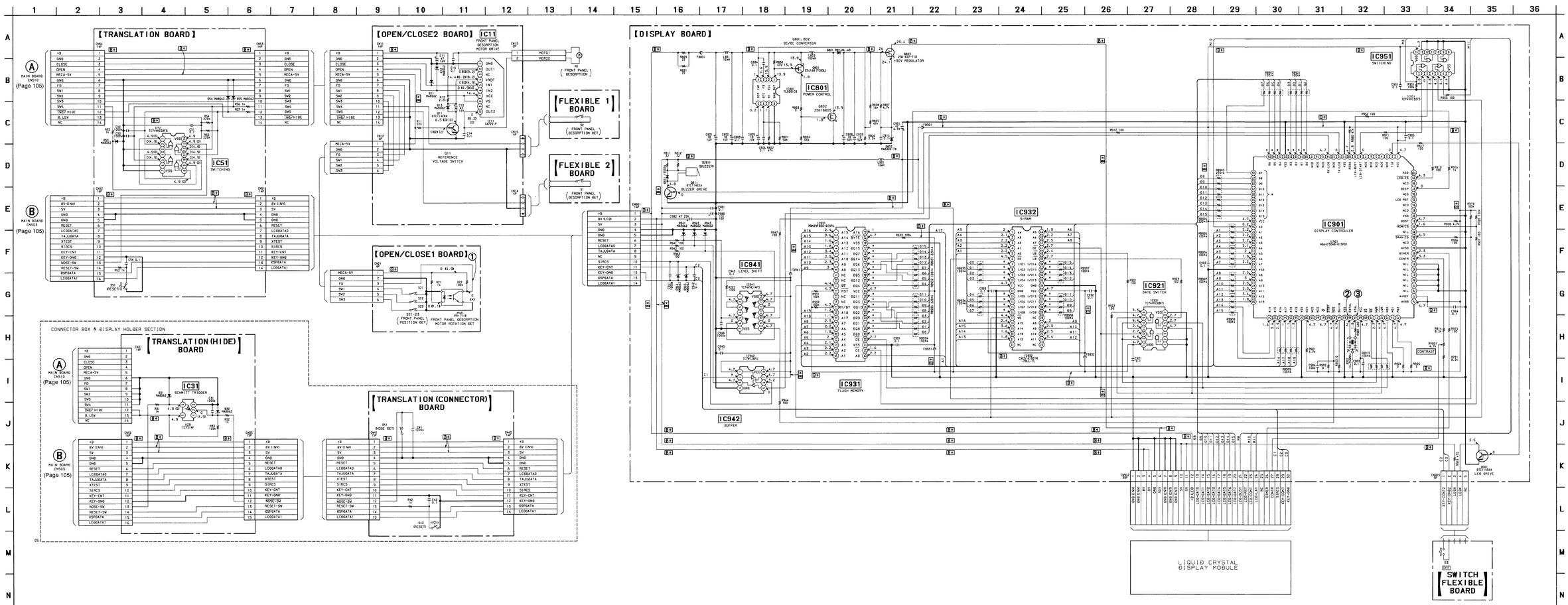
- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantaliums.
- All resistors are in Ω and ¼ W or less unless otherwise specified.
- △ : internal component.
- ▭ : panel designation.
- B+ : B+ Line.
- Power voltage is dc 14.4 V and fed with regulated dc power supply from BATTERY and ACCESSORY terminals in control unit.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions (connect the changer unit).
  no mark : FM
  ( ) : AM
  << >> : Front panel is being removed or attached.
  REMOVE : Front panel is being removed.
  ATTACH : Front panel is being attached.
  REMOVE OK : Front panel is at removal position.
  * : Impossible to measure
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨: FM
  ➡: AM

Note on Schematic Diagram:

- All capacitors are in µF unless otherwise noted. pF: µµF
  50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼ W or less unless otherwise specified.
- △ : internal component.
- ▭ : panel designation.
- B+ : B+ Line.
- ▭ : adjustment for repair.
- Power voltage is dc 14.4 V and fed with regulated dc power supply from BATTERY and ACCESSORY terminals in control unit.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions (connect the changer unit).
  no mark : CD PLAY (or FM/AM)
  ( ) : No panel is present at front panel position.
  << >> : Front panel is being attached.
  [ ] : Front panel is being removed.
  • : Impossible to measure
- Voltages are taken with a VOM (input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.

7-14. SCHEMATIC DIAGRAM – CONTROL UNIT (FRONT PANEL/DESORPTION MECHANISM Section) –

• See page 151 for Waveforms, see page 160 for IC Block Diagrams.



【OPEN/CLOSE 2 BOARD】(COMPONENT SIDE)

【OPEN/CLOSE 2 BOARD】(CONDUCTOR SIDE)

【FLEXIBLE 1 BOARD】

【FLEXIBLE 2 BOARD】

【OPEN/CLOSE 1 BOARD】

【TRANSLATION BOARD】(COMPONENT SIDE)

【TRANSLATION BOARD】(CONDUCTOR SIDE)

【TRANSLATION(HIDE) BOARD】(COMPONENT SIDE)

【TRANSLATION(HIDE) BOARD】(CONDUCTOR SIDE)

【TRANSLATION(CONNECTOR) BOARD】(COMPONENT SIDE)

【TRANSLATION(CONNECTOR) BOARD】(CONDUCTOR SIDE)

CONNECTOR BOX & DISPLAY HOLDER SECTION

【DISPLAY BOARD】(COMPONENT SIDE)

【DISPLAY BOARD】(CONDUCTOR SIDE)

LIQUID CRYSTAL DISPLAY MODULE

【SWITCH FLEXIBLE BOARD】

• **Semiconductor Location**

Ref. No.	Location
D11	C-7
D12	C-7
D13	C-8
D31	B-14
D32	A-14
D53	I-4
D54	J-4
D55	J-4
D801	G-15
D802	I-16
D811	I-16
D941	J-17
D942	J-17
D943	I-16
D944	I-16
D945	I-17
IC11	B-7
IC31	B-14
IC51	I-3
IC801	G-13
IC901	J-14
IC921	K-13
IC931	J-11
IC932	J-12
IC941	J-17
IC942	K-17
IC951	J-16
PH21	G-8
Q11	B-8
Q801	G-13
Q802	G-14
Q803	I-15
Q811	J-16
Q901	K-16

Note on Printed Wiring Board:

- o—— : parts extracted from the component side.
- —— : parts extracted from the conductor side.
- ● : Through hole.
- △ : internal component.
- : Pattern of the rear side.
- : Pattern from the side which enables seeing.

(The other layers' patterns are not indicated.)

Caution:

Pattern face side: (Conductor Side)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Component Side)	Parts on the parts face side seen from the parts face are indicated.

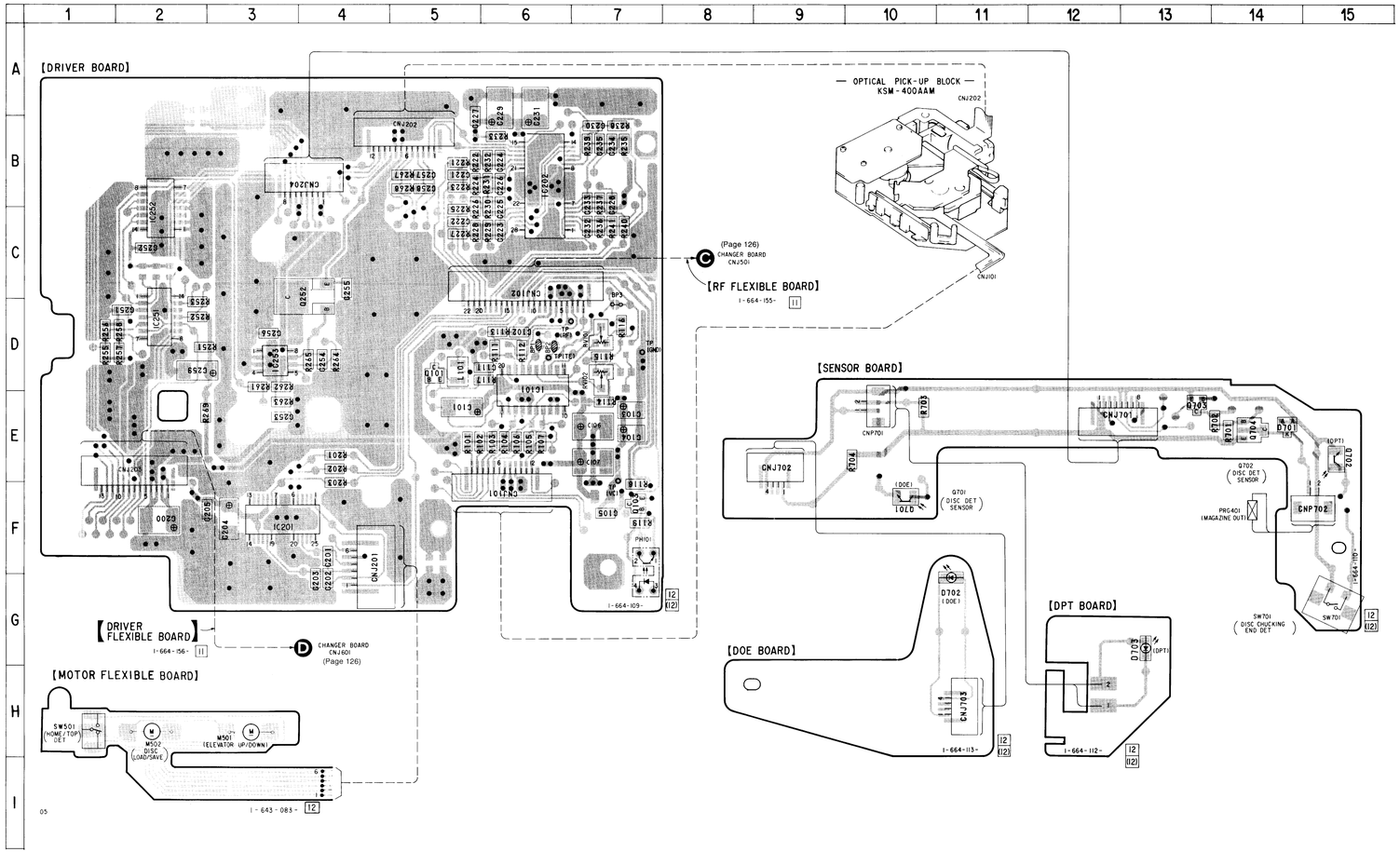
7-16. PRINTED WIRING BOARDS – CHANGER UNIT (DRIVER Section) –

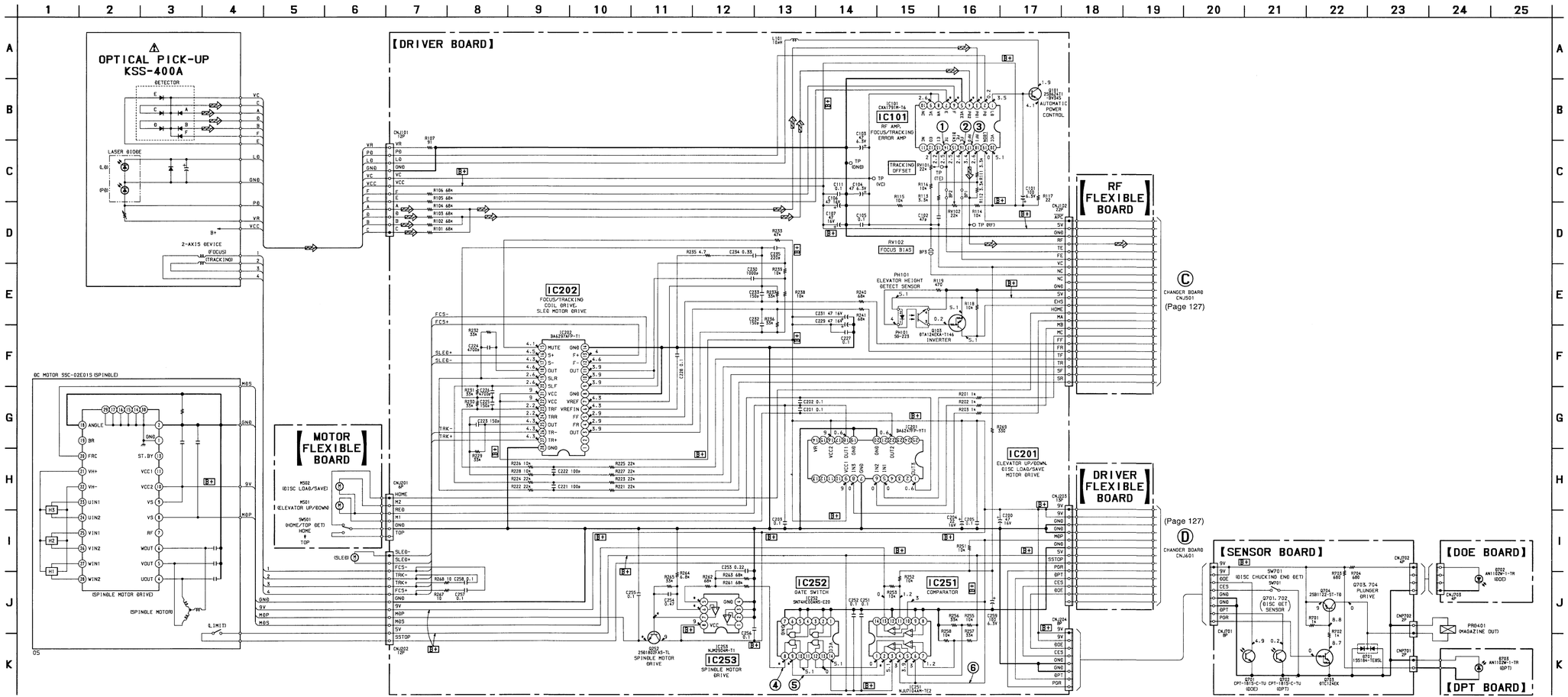
• See page 96 for Circuit Boards Location.

• **Semiconductor Location**

Ref. No.	Location
D701	E-14
D702	G-11
D703	G-13
IC101	D-6
IC201	F-3
IC202	B-6
IC251	D-2
IC252	C-2
IC253	D-3
PH101	F-7
Q101	D-5
Q103	F-7
Q252	C-4
Q701	F-10
Q702	E-15
Q703	E-13
Q704	E-14

Note on Printed Wiring Board:
- ○—— : parts extracted from the component side.
- —— : parts extracted from the conductor side.
- ● : Through hole.
- : Pattern of the rear side.
- ▒▒▒ : Pattern from the side which enables seeing.





Note on Schematic Diagram:

- All capacitors are in µF unless otherwise noted. pF: µµF
  50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.

Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- B+ : B+ Line.
- ▭ : adjustment for repair.
- Power voltage is dc 14.4 V and fed with regulated dc power supply from POWER terminal in changer unit.
- Voltages and waveforms are dc with respect to ground under no-signal conditions (connect the control unit).
  no mark : CD PLAY
  • : Impossible to measure
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨:CD PLAY

7-18. PRINTED WIRING BOARDS – CHANGER UNIT (CHANGER Section) –

• See page 96 for Circuit Boards Location.

• **Semiconductor Location**

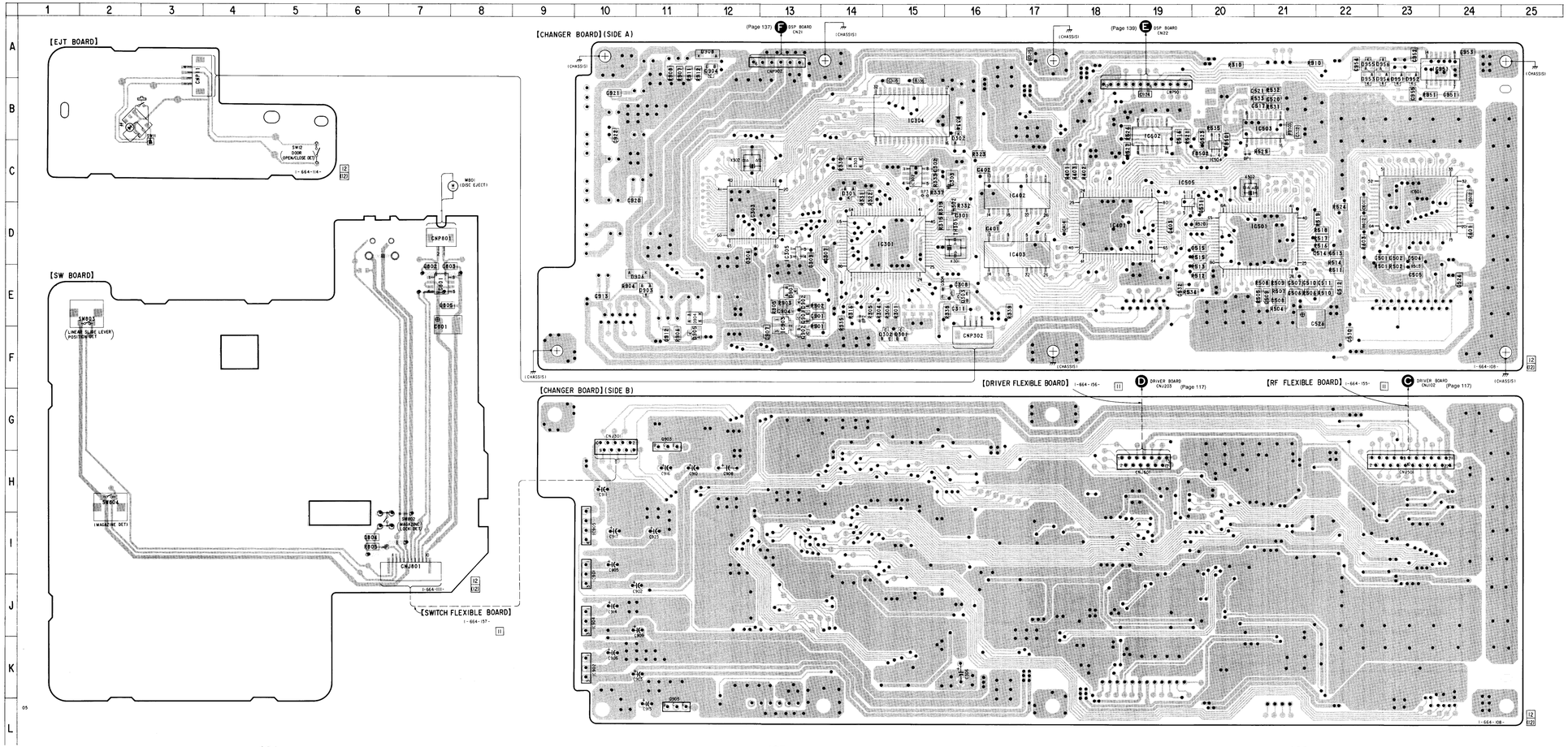
Ref. No.	Location
D301	C-14
D302	B-16
D303	C-14
D901	E-13
D902	E-13
D903	E-11
D904	E-11
D905	F-11
D906	E-11
D908	A-12
D951	A-23
D952	A-23
D953	A-22
D954	A-23
D955	A-22
D956	A-23
IC301	D-15
IC302	C-15
IC303	D-12
IC304	B-15
IC305	D-13
IC401	D-18
IC402	C-17
IC403	D-17
IC501	D-21
IC502	B-19
IC503	B-21
IC504	C-20
IC505	C-19
IC601	C-23
IC801	E-7
IC901	J-10
IC902	K-10
IC903	E-13
IC904	J-10
IC905	I-10
IC951	A-24
Q301	F-15
Q302	F-15
Q303	E-16
Q304	E-16
Q901	E-13
Q902	F-13
Q903	G-11
Q904	A-12
Q905	L-11

Note on Printed Wiring Board:

- ○—— : parts extracted from the component side.
- —— : parts extracted from the conductor side.
- ● : Through hole.
- △ : internal component.
- ▒ : Pattern of the rear side.
- ▒ : Pattern from the side which enables seeing.

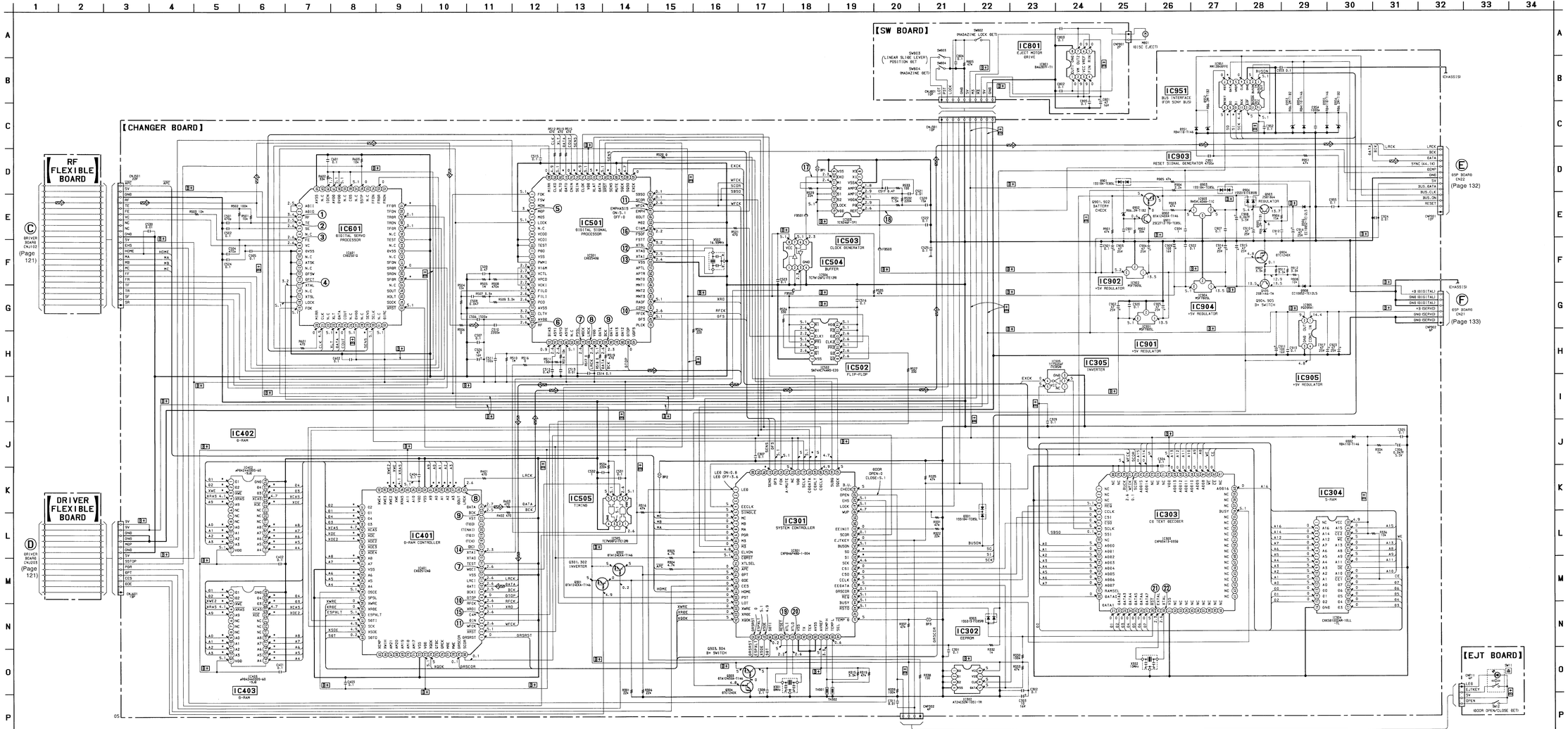
(The other layers' patterns are not indicated.)

Caution:	
Pattern face side: (Side B)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Side A)	Parts on the parts face side seen from the parts face are indicated.



7-19. SCHEMATIC DIAGRAM – CHANGER UNIT (CHANGER Section) –

• See page 152 for Waveforms, see page 163 for IC Block Diagrams.

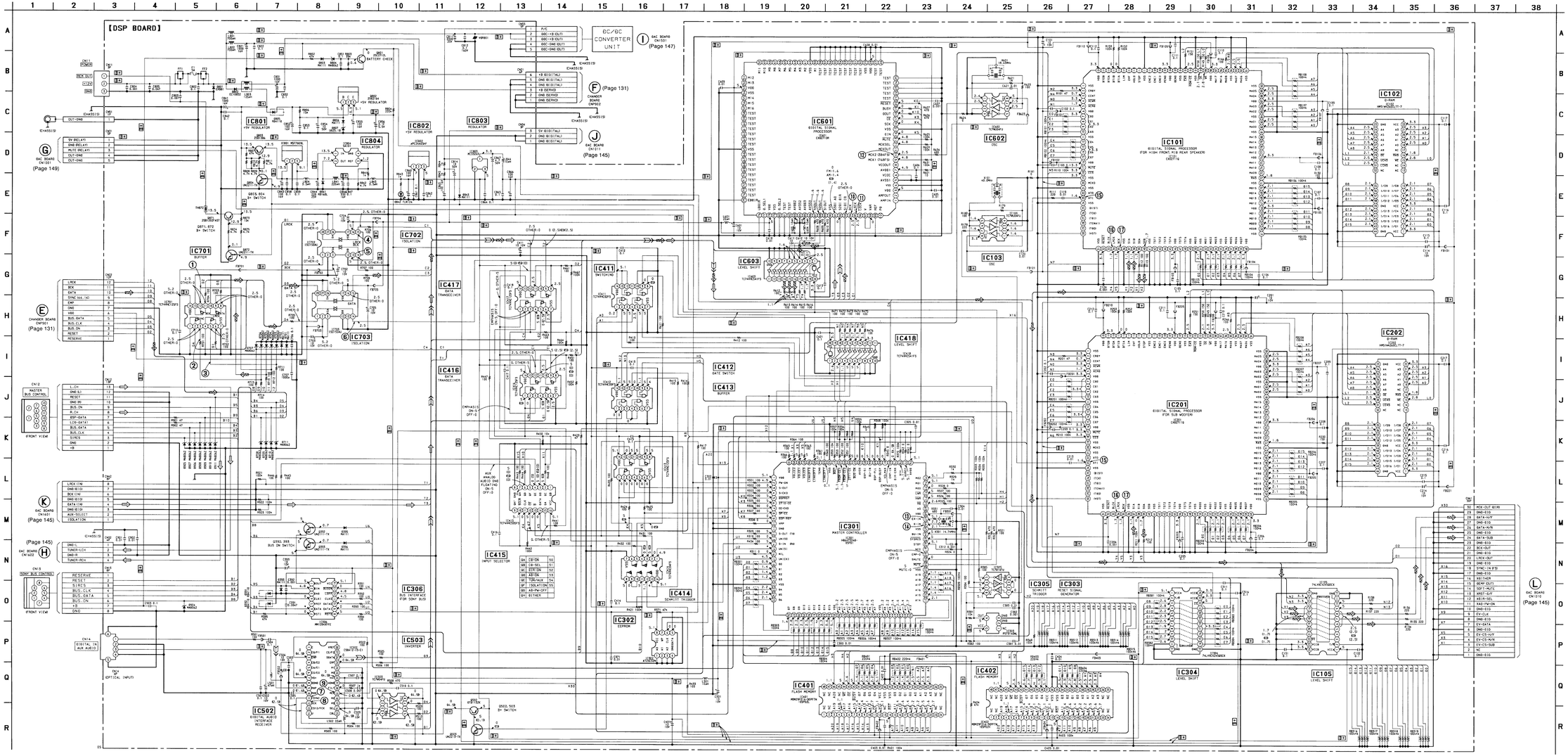


Note on Schematic Diagram:

- All capacitors are in µF unless otherwise noted. pF: µµF
  50 WV or less are not indicated except for electrolytics and tantaliums.
- All resistors are in Ω and ¼ W or less unless otherwise specified.
- △ : internal component.
- ▭ : panel designation.
- B+ : B+ Line.
- Power voltage is dc 14.4 V and fed with regulated dc power supply from POWER terminal in changer unit.
- Voltages and waveforms are dc with respect to ground under no-signal conditions (connect the control unit).
  no mark : CD PLAY
  * : Impossible to measure
- Voltages are taken with a VOM (input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨: CD PLAY

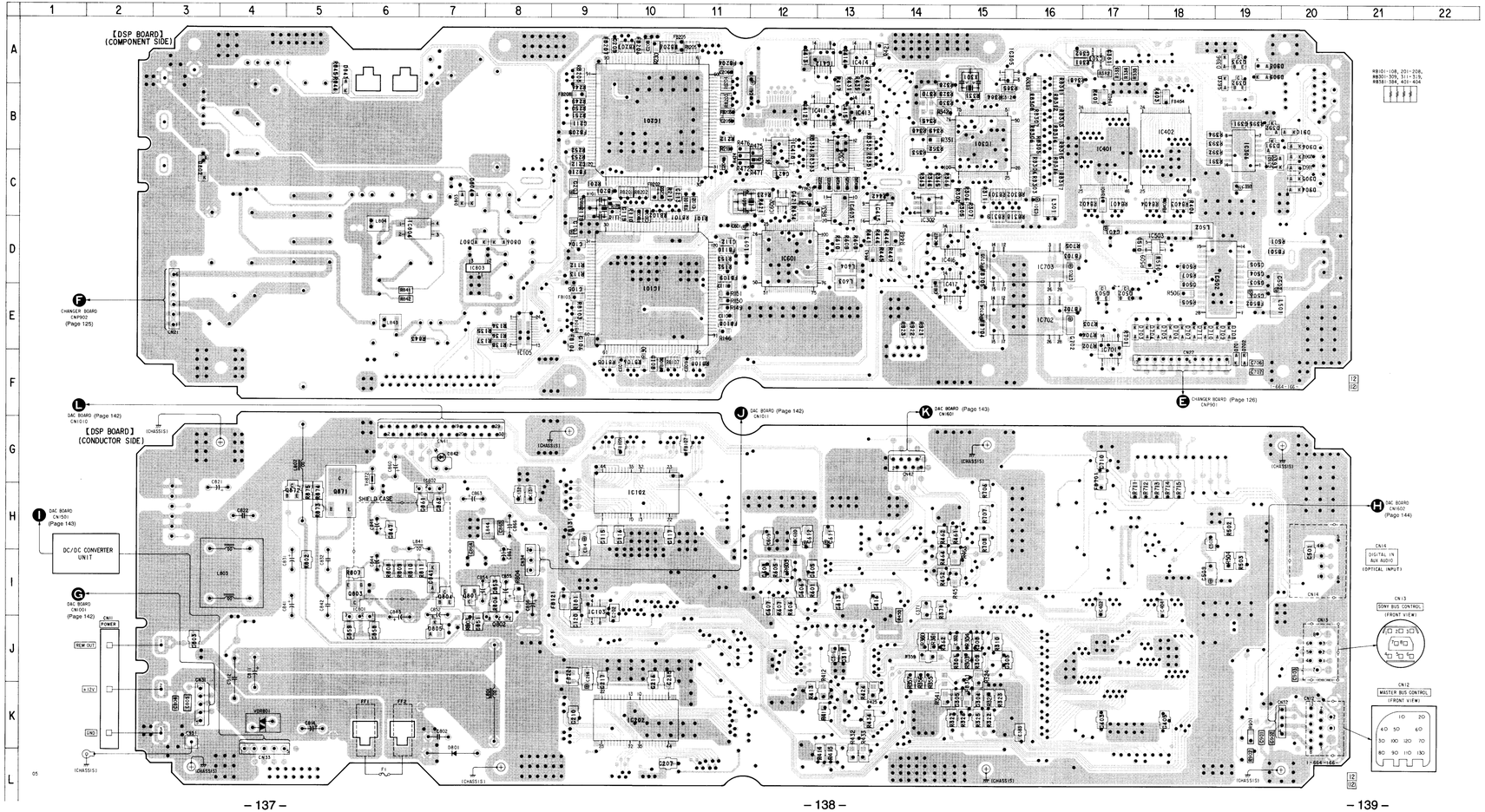
7-20. SCHEMATIC DIAGRAM – CHANGER UNIT (DSP Section) –

• See page 154 for Waveforms, see page 166 for IC Block Diagrams.


【DSP BOARD】
DC/DC CONVERTER UNIT
(I) 6AC BOARD CN101 (Page 147)
(F) (Page 131) CHANGER BOARD CNP502
(J) 6AC BOARD CN101 (Page 145)
(G) 6AC BOARD CN101 (Page 149)
(E) CHANGER BOARD CNP501 (Page 131)
(K) 6AC BOARD CN101 (Page 145)
(Page 145) 6AC BOARD CN102 (H)
(L) 6AC BOARD CN102 (Page 145)
IC101 61017AL SIGNAL PROCESSOR (FOR HIGH FRONT, MID REAR SPEAKER)
IC102 MB87L1117-7
IC201 61017AL SIGNAL PROCESSOR (FOR SUB WOOFER)
IC202 MB87L1117-7
IC301 MASTER CONTROLLER
IC303 RC5T SIGNAL GENERATOR
IC305 SCHMITT TRIGGER
IC304 LEVEL SHIFT
IC105 LEVEL SHIFT
IC601 61017AL SIGNAL PROCESSOR
IC602 OSC
IC603 LEVEL SHIFT
IC103 OSC
IC701 BUFFER
IC702 ISOLATION
IC703 ISOLATION
IC411 SWITCHING
IC417 DATA TRANSCEIVER
IC416 DATA TRANSCEIVER
IC412 DATE SWITCH
IC413 BUFFER
IC418 LEVEL SHIFT
IC415 INPUT SELECTOR
IC414 SCHMITT TRIGGER
IC306 BUS INTERFACE (FOR SONY BUS)
IC302 EEPROM
IC503 INVERTER
IC502 61017AL AUDIO INTERFACE RECEIVER
IC401 FLASH MEMORY (FOR MEMORY MORPH)
IC402 FLASH MEMORY
IC801 +5V REGULATOR
IC804 REGULATOR
IC802 +5V REGULATOR
IC803 REGULATOR
BATTERY CHECK
+5V REGULATOR
GR03, 804 B+ SWITCH
GR01, 872 B+ SWITCH
GR02, 503 B+ SWITCH
BUS SW SWITCH
AUX ANALOG AUDIO FLOATING ON: L OFF: G
EMPHASIS ON: L OFF: G
CN11 (POWER)
CN12 MASTER BUS CONTROL
CN13 SONY BUS CONTROL
CN14 61017AL 1bit AUX AUDIO
CN15 (OPTICAL INPUT)
CN16 (OPTICAL OUTPUT)
CN17 (OPTICAL OUTPUT)
CN18 (OPTICAL INPUT)
CN19 (OPTICAL INPUT)
CN20 (OPTICAL OUTPUT)
CN21 (OPTICAL OUTPUT)
CN22 (OPTICAL INPUT)
CN23 (OPTICAL OUTPUT)
CN24 (OPTICAL INPUT)
CN25 (OPTICAL OUTPUT)
CN26 (OPTICAL INPUT)
CN27 (OPTICAL OUTPUT)
CN28 (OPTICAL INPUT)
CN29 (OPTICAL OUTPUT)
CN30 (OPTICAL INPUT)
CN31 (OPTICAL OUTPUT)
CN32 (OPTICAL INPUT)

7-21. PRINTED WIRING BOARD – CHANGER UNIT (DSP Section) –

• See page 96 for Circuit Boards Location.



• Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D391	B-19	IC202	K-10
D392	B-19	IC301	B-15
D393	C-19	IC302	C-14
D395	A-19	IC303	A-17
D396	A-19	IC304	C-13
D701	F-19	IC305	A-15
D702	F-19	IC306	B-19
D703	E-17	IC401	B-17
D704	E-18	IC402	B-18
D705	E-18	IC411	B-13
D706	E-18	IC412	A-13
D707	E-18	IC413	B-13
D708	E-19	IC414	A-13
D709	E-19	IC415	C-13
D710	E-18	IC416	D-15
D711	E-18	IC417	E-15
D801	L-7	IC418	C-12
D802	C-3	IC502	D-19
D803	C-7	IC503	D-18
D804	C-7	IC601	D-12
D805	J-7	IC602	C-12
D806	D-8	IC603	C-13
D807	D-7	IC701	E-17
D841	I-7	IC702	E-16
D842	G-7	IC703	D-16
D843	A-5	IC801	I-6
D904	C-20	IC802	H-7
D905	C-20	IC803	D-7
D906	B-20	IC804	D-6
D907	C-20		
D908	A-19	Q392	A-19
D909	A-19	Q393	A-19
D910	B-20	Q502	E-17
D911	C-20	Q503	E-17
		Q801	I-7
IC101	E-10	Q802	J-8
IC102	H-10	Q803	I-6
IC103	I-9	Q804	I-7
IC105	E-8	Q871	H-5
IC201	B-10	Q872	H-5

Note on Printed Wiring Board:

- ○—— : parts extracted from the component side.
- —— : parts extracted from the conductor side.
- ● : Through hole.
- △ : internal component.
- ▨ : Pattern from the side which enables seeing.

(The other layers' patterns are not indicated.)

Caution:	
Pattern face side: (Conductor Side)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Component Side)	Parts on the parts face side seen from the parts face are indicated.

7-22. PRINTED WIRING BOARDS – CHANGER UNIT (DAC Section) –

• See page 96 for Circuit Boards Location.

• Semiconductor Location

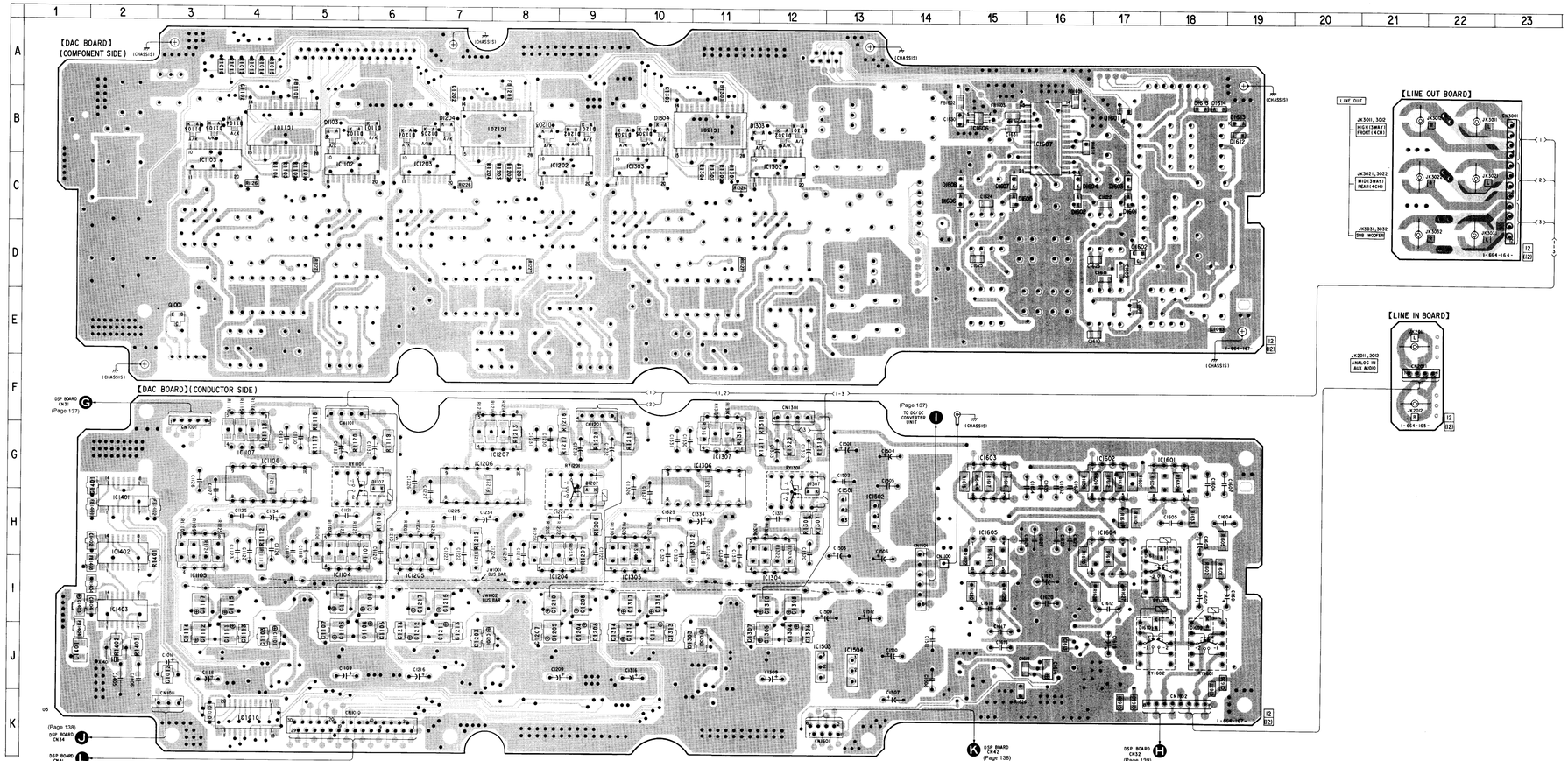
Ref. No.	Location	Ref. No.	Location
D1101	B-6	IC1102	C-5
D1102	B-5	IC1103	C-3
D1103	B-5	IC1104	I-5
D1104	B-4	IC1105	I-3
D1105	B-3	IC1106	G-4
D1106	B-3	IC1107	G-4
D1107	G-6	IC1201	B-8
D1201	B-9	IC1202	C-9
D1202	B-9	IC1203	C-6
D1203	B-8	IC1204	I-9
D1204	B-7	IC1205	I-6
D1205	B-7	IC1206	G-7
D1206	B-6	IC1207	G-8
D1207	G-9	IC1301	B-11
D1301	B-12	IC1302	C-12
D1302	B-12	IC1303	C-10
D1303	B-12	IC1304	I-12
D1304	B-10	IC1305	I-10
D1305	B-10	IC1306	G-11
D1306	B-9	IC1307	G-11
D1307	G-12	IC1401	H-2
D1601	C-17	IC1402	H-2
D1602	C-16	IC1403	I-2
D1603	C-17	IC1501	H-13
D1604	C-16	IC1502	H-13
D1605	C-15	IC1503	J-12
D1606	C-14	IC1504	J-13
D1607	C-15	IC1601	G-18
D1608	C-14	IC1602	G-17
D1609	I-18	IC1603	G-15
D1610	I-17	IC1604	H-17
D1611	H-18	IC1605	H-15
D1612	B-19	IC1606	B-15
D1613	B-19	IC1607	B-16
D1614	B-18		
D1615	B-18	Q1001	E-3
		Q1601	B-17
IC1010	K-4	Q1602	D-17
IC1101	B-4		

Note on Printed Wiring Board:

- ○——: parts extracted from the component side.
- ——: parts extracted from the conductor side.
- ●: Through hole.
- ▒▒: Pattern of the rear side.
- ▒▒: Pattern from the side which enables seeing.

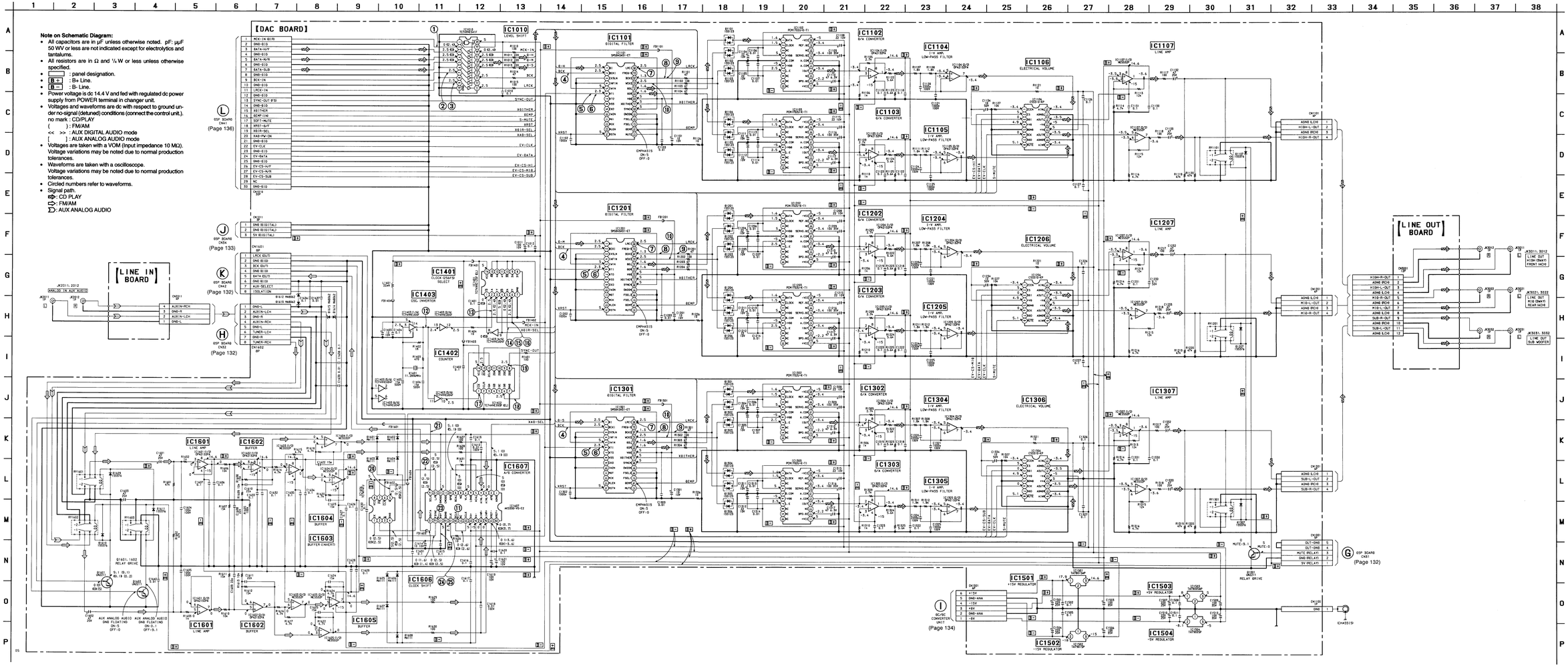
(The other layers' patterns are not indicated.)

Caution:
Pattern face side: (Conductor Side) Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Component Side) Parts on the parts face side seen from the parts face are indicated.



7-23. SCHEMATIC DIAGRAM – CHANGER UNIT (DAC Section) –

• See page 155 for Waveforms, see page 168 for IC Block Diagrams.



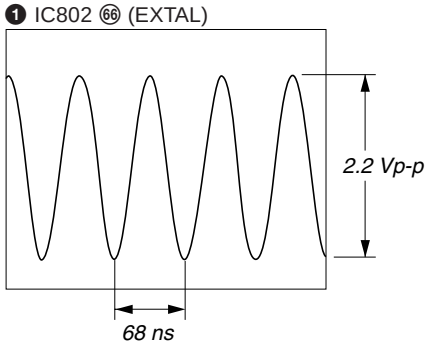
Note on Schematic Diagram:

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼ W or less unless otherwise specified.
- [ ] : panel designation.
- [B+] : B+ Line.
- [B−] : B- Line.
- Power voltage is dc 14.4 V and fed with regulated dc power supply from POWER terminal in changer unit.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions (connect the control unit.).
  no mark : CD/PLAY
  ( ) : FM/AM
  << >> : AUX DIGITAL AUDIO mode
  [ ] : AUX ANALOG AUDIO mode
- Voltages are taken with a VOM (input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨: CD PLAY
  ⇨: FM/AM
  Σ: AUX ANALOG AUDIO

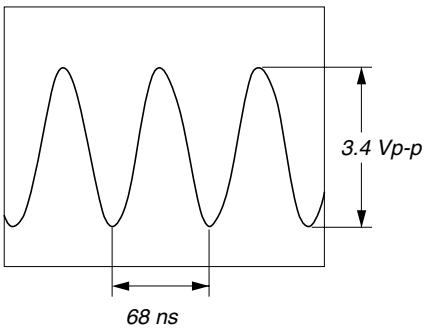
• **Waveforms**

– CONTROL UNIT (MAIN Board) –

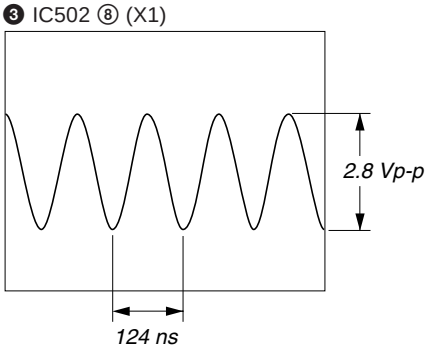
❶ IC802 ㊻ (EXTAL)



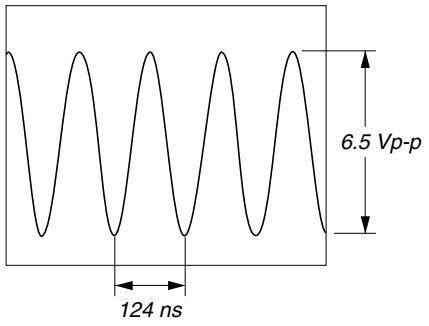
❷ IC802 ㊼ (XTAL)



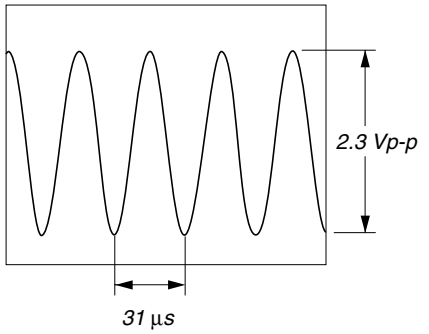
❸ IC502 ⑧ (X1)



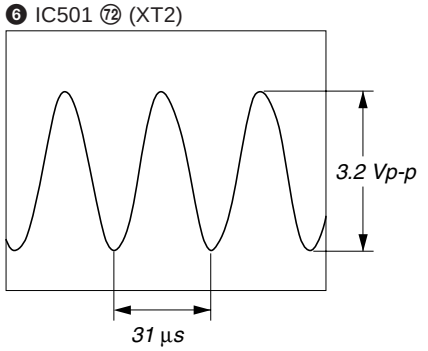
❹ IC502 ⑨ (X2)



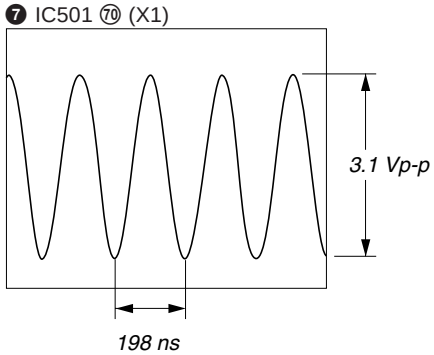
❺ IC501 ⑬ (XT1)



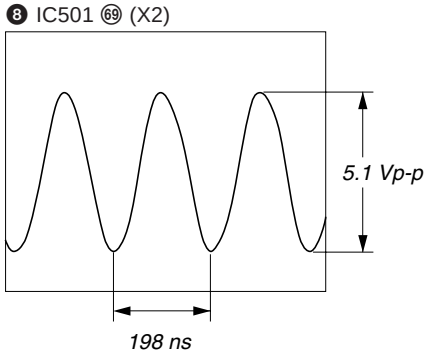
❻ IC501 ⑫ (XT2)



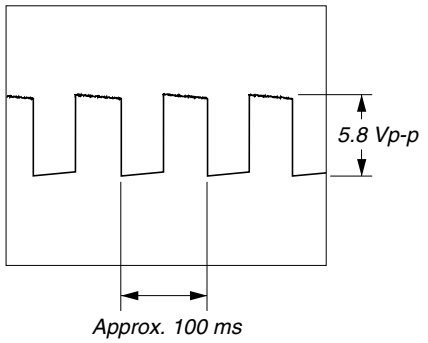
❼ IC501 ⑩ (X1)



❽ IC501 ⑲ (X2)

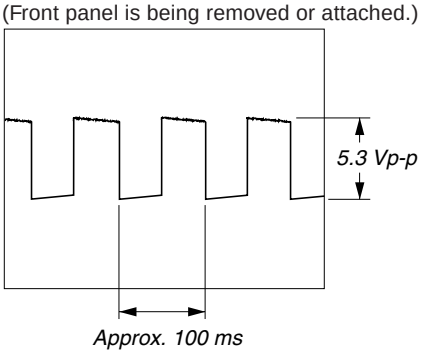


❾ IC501 ㊸ (FG)
(Front panel is being removed or attached.)

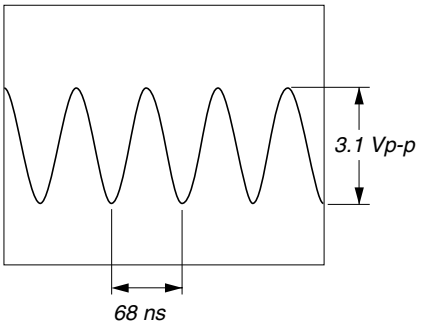


– CONTROL UNIT (DISPLAY Section) –

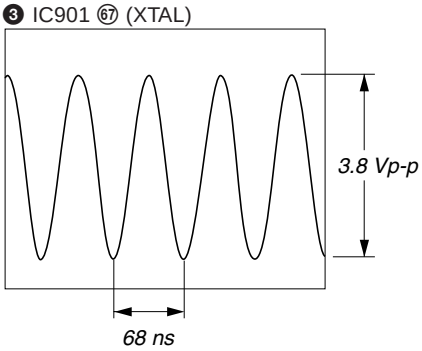
❶ PH21 COLLECTOR
(Front panel is being removed or attached.)



❷ IC901 ㊻ (EXTAL)

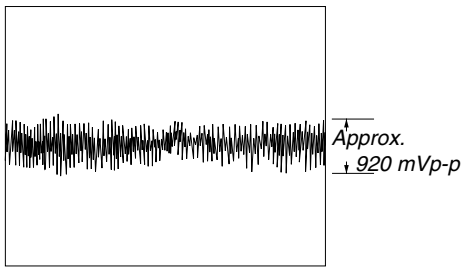


❸ IC901 ㊼ (XTAL)

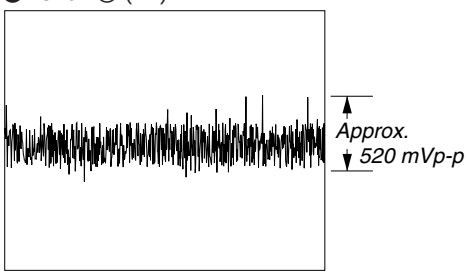


– CHANGER UNIT (DRIVER Board) –

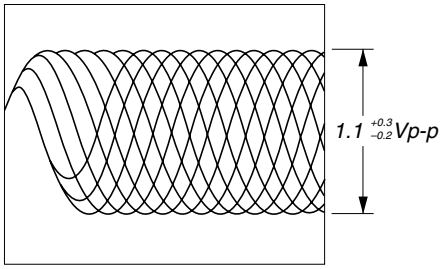
❶ IC101 ⑭ (TE)



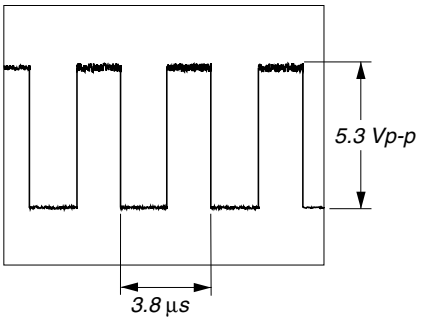
❷ IC101 ⑯ (FE)



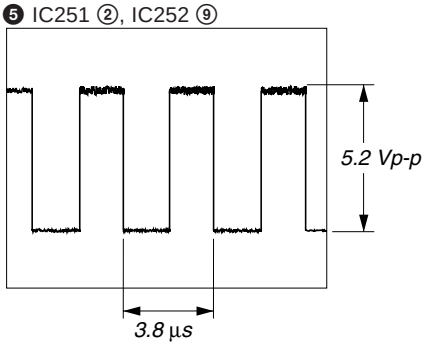
❸ IC101 ⑰ (RFO)



❹ IC252 ⑧

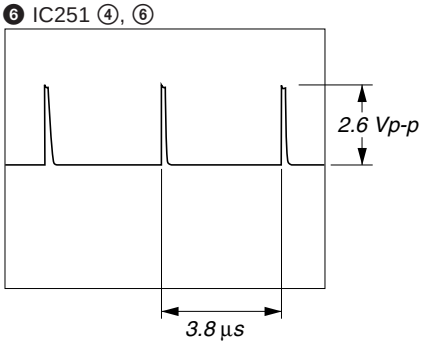


❺ IC251 ②, IC252 ⑨



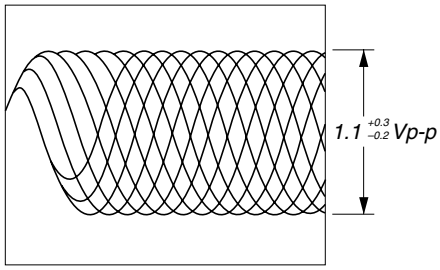
– CHANGER UNIT (CHANGER Board) –

❻ IC251 ④, ⑥

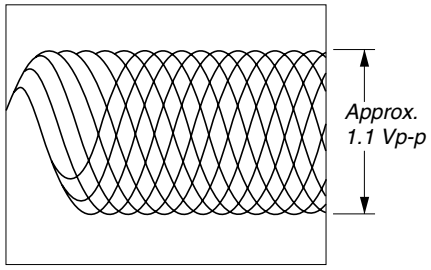


Note: DRIVER board waveforms are CD play mode.

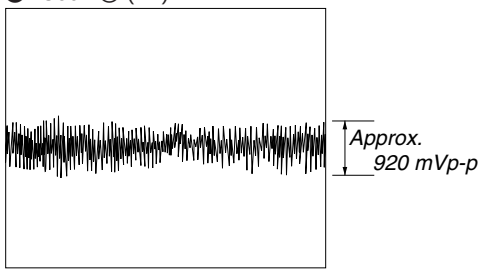
❶ IC601 ③ (RF)



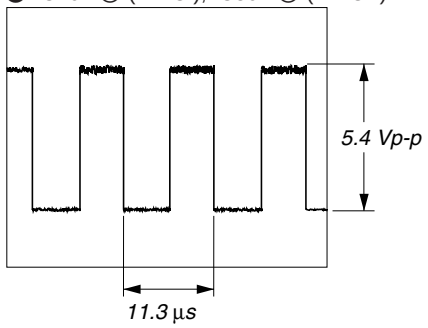
❻ IC501 ㉔ (RF)



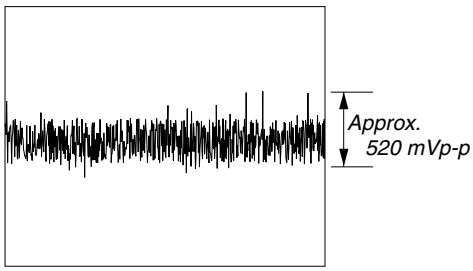
❷ IC601 ④ (TE)



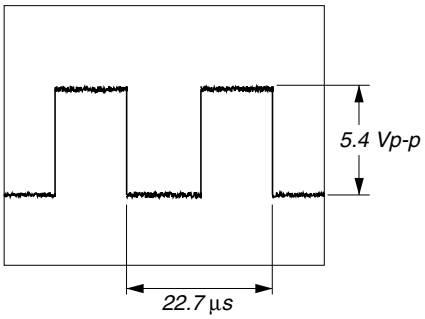
❼ IC401 ⑬ (WDCI), IC501 ㉛ (WDCK)



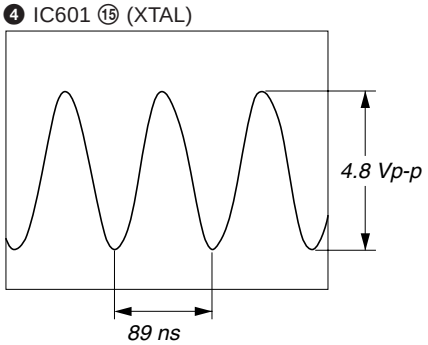
❸ IC601 ⑦ (FE)



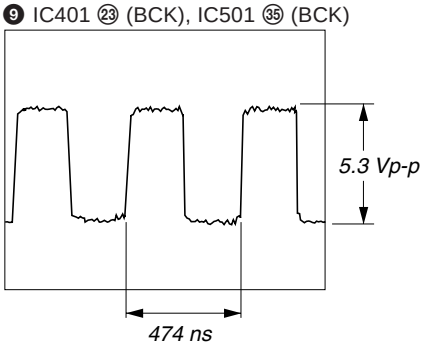
❽ IC401 ㉕ (LRCK), IC501 ㉜ (LRCK)



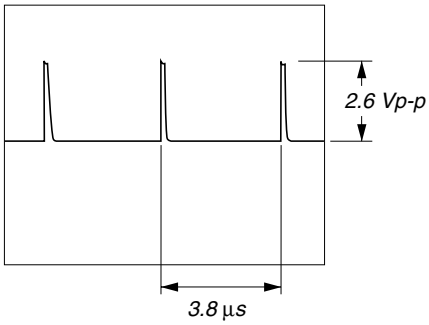
❹ IC601 ⑮ (XTAL)



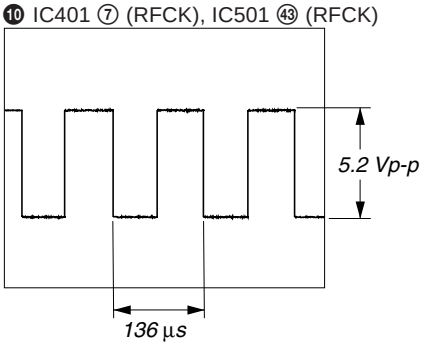
❾ IC401 ㉓ (BCK), IC501 ㉟ (BCK)



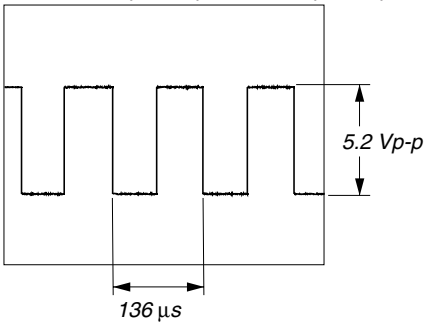
❺ IC501 ④ (MDP)



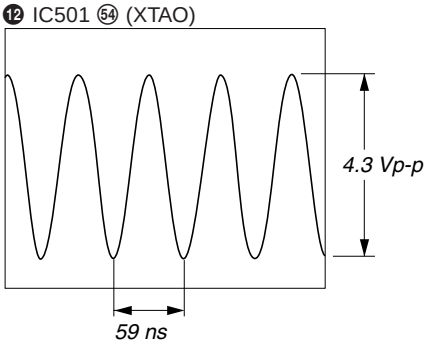
❿ IC401 ⑦ (RFCK), IC501 ㊸ (RFCK)



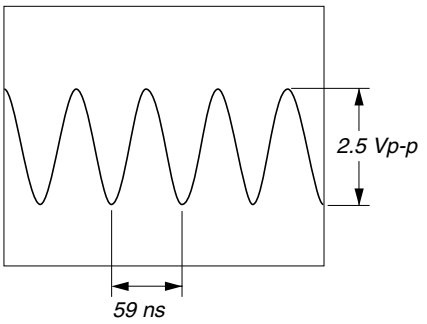
⓫ IC401 ③ (WFCK), IC501 ㊷ (WFCK)



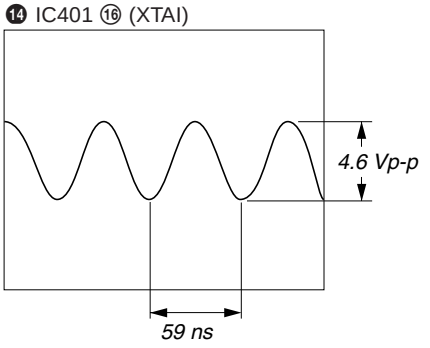
⓬ IC501 ㊹ (XTAO)



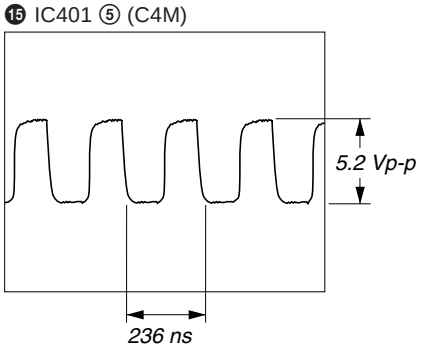
⓭ IC501 ㊸ (XTAI)



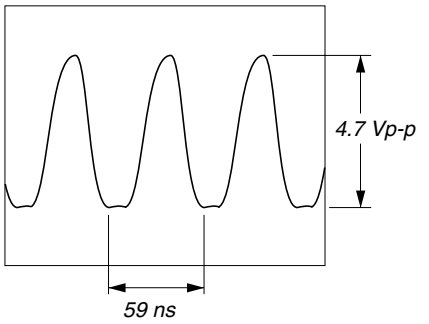
⓮ IC401 ⑯ (XTAI)



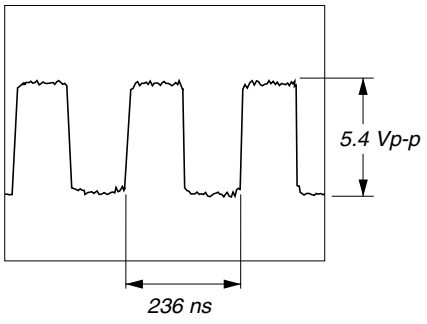
⓯ IC401 ⑤ (C4M)



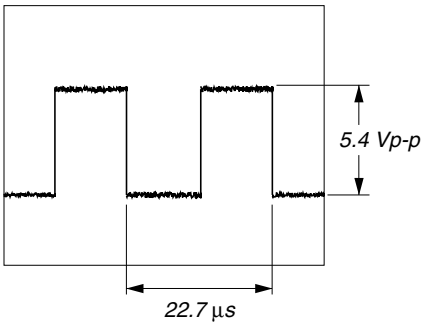
⓰ IC501 ㊽ (C16M)



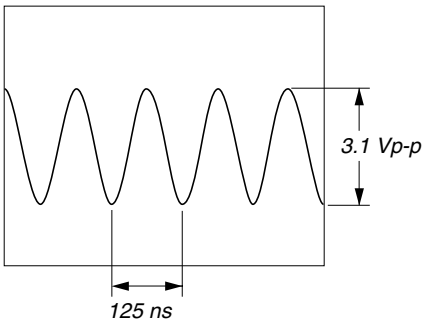
⓱ IC503 ⑩ (CKO)



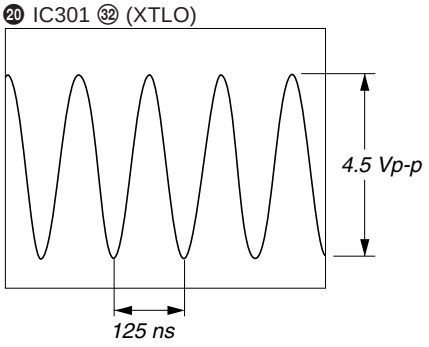
⓲ IC503 ① (REF)



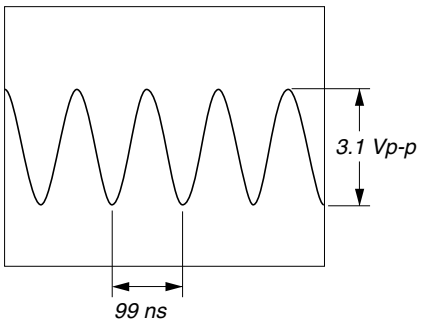
⓳ IC301 ㉛ (XTLI)



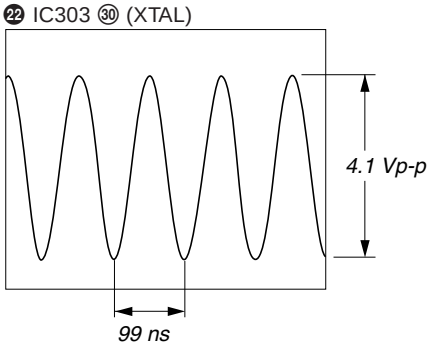
⓴ IC301 ㉜ (XTLO)



㉑ IC303 ㉙ (EXTAL)



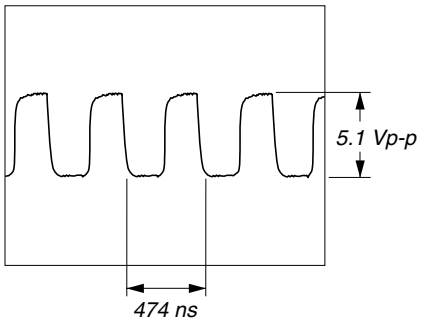
㉒ IC303 ㉚ (XTAL)



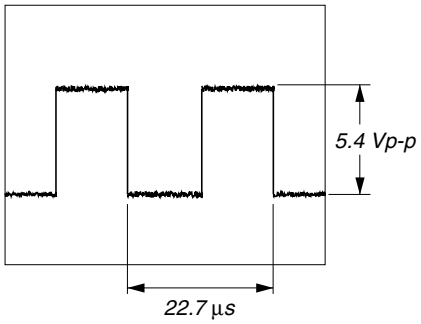
Note: CHANGER board waveforms are CD play mode.

– CHANGER UNIT (DSP Board) –

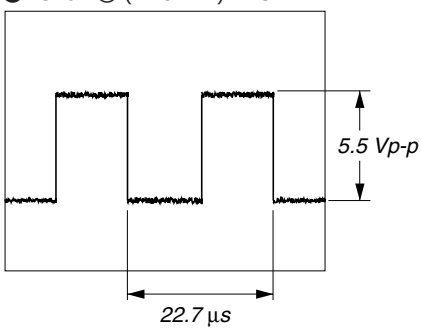
❶ IC701 ⑫ (BCK IN) NOTE 1



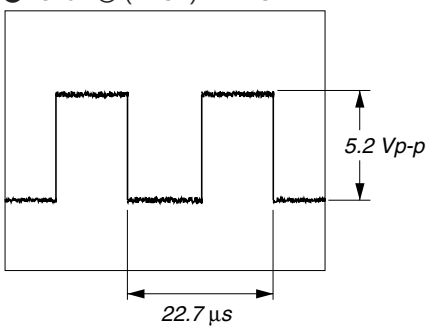
❷ IC701 ③ (SYNC OUT) NOTE 1



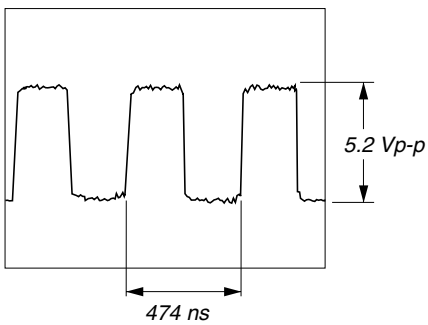
❸ IC701 ⑤ (LRCK IN) NOTE 1



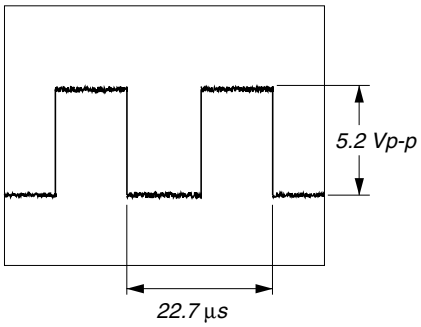
❹ IC702 ⑮ (LRCK) NOTE 1



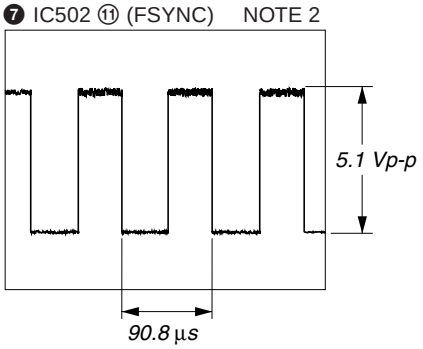
❺ IC702 ⑭ (BCK) NOTE 1



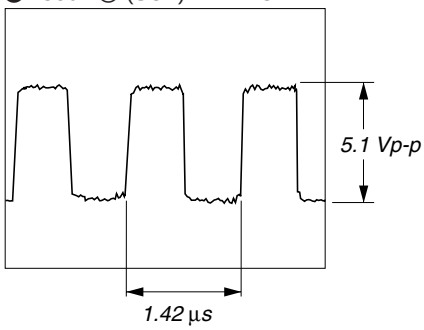
❻ IC703 ⑭ (SYNC)



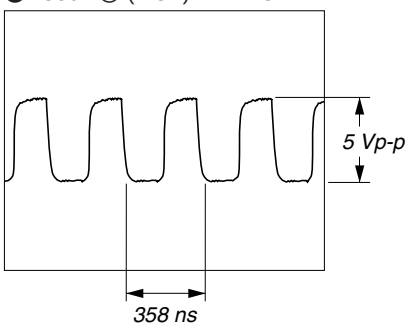
❼ IC502 ⑪ (FSYNC) NOTE 2



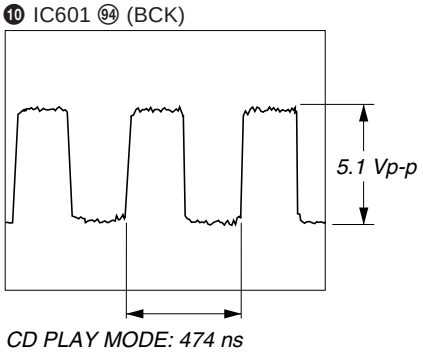
❽ IC502 ⑫ (SCK) NOTE 2



❾ IC502 ⑲ (MCK) NOTE 2

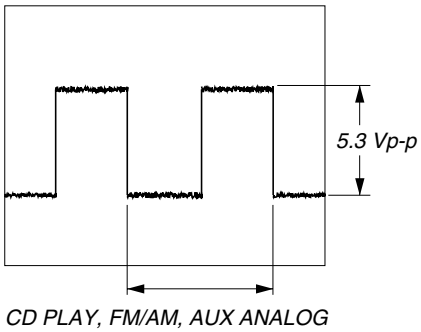


❿ IC601 ⑭ (BCK)



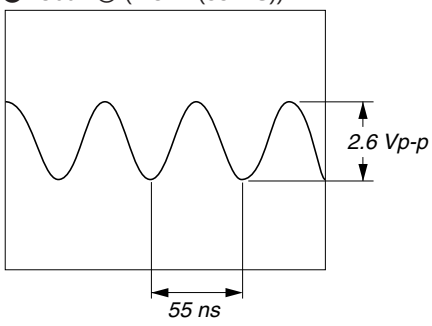
CD PLAY MODE: 474 ns
FM/AM, AUX ANALOG AUDIO MODE: 354 ns
AUX DIGITAL AUDIO MODE: 1.42 µs

⓫ IC601 ⑮ (LRCK)

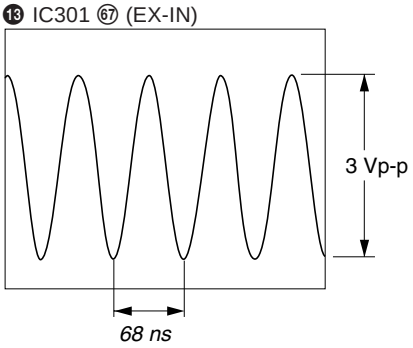


CD PLAY, FM/AM, AUX ANALOG AUDIO MODE: 22.7 µs
AUX DIGITAL AUDIO MODE: 90.8 µs

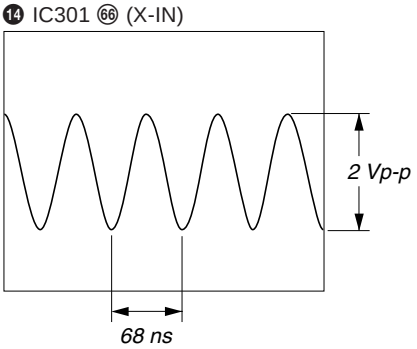
⓬ IC601 ⑩ (MCK2 (384FS))



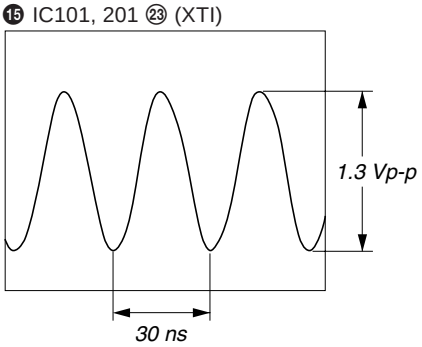
⓭ IC301 ⑰ (EX-IN)



⓮ IC301 ⑯ (X-IN)

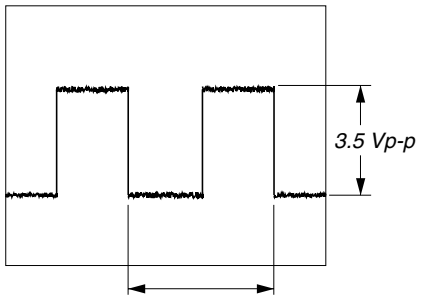


⓯ IC101, 201 ㉓ (XTI)



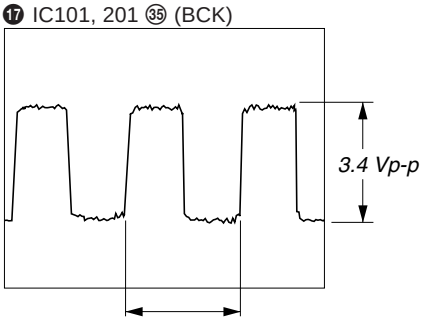
– CHANGER UNIT (DAC Board) –

⓰ IC101, 201 ㉞ (LRCK)



CD PLAY, FM/AM, AUX ANALOG AUDIO MODE: 22.7 µs
AUX DIGITAL AUDIO MODE: 90.8 µs

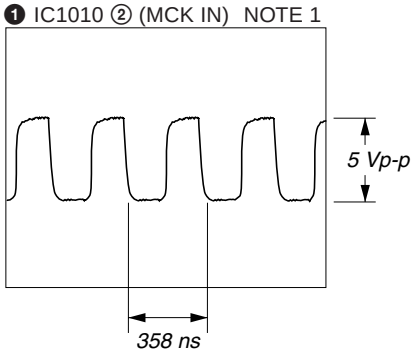
⓱ IC101, 201 ㉟ (BCK)



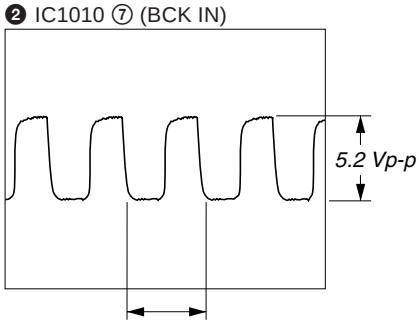
CD PLAY MODE: 474 ns
FM/AM, AUX ANALOG AUDIO MODE: 354 ns
AUX DIGITAL AUDIO MODE: 1.42 µs

Notes:
1. CD play mode
2. AUX DIGITAL AUDIO mode.

❶ IC1010 ② (MCK IN) NOTE 1

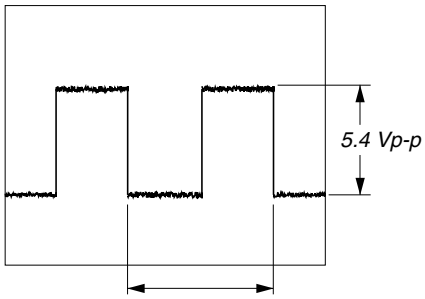


❷ IC1010 ⑦ (BCK IN)



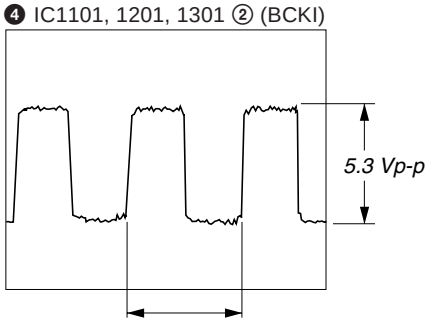
CD PLAY MODE: 474 ns
FM/AM, AUX ANALOG AUDIO MODE: 354 ns
AUX DIGITAL AUDIO MODE: 1.42 µs

❸ IC1010 ⑨ (LRCK IN)



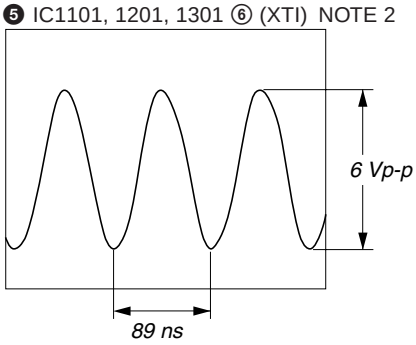
CD PLAY, FM/AM, AUX ANALOG AUDIO MODE: 22.7 µs
AUX DIGITAL AUDIO MODE: 90.8 µs

❹ IC1101, 1201, 1301 ② (BCKI)

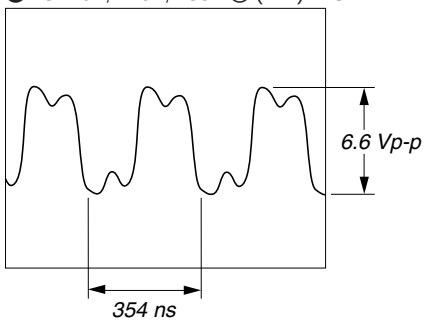


CD PLAY MODE: 474 ns
FM/AM, AUX ANALOG AUDIO MODE: 354 ns
AUX DIGITAL AUDIO MODE: 1.42 µs

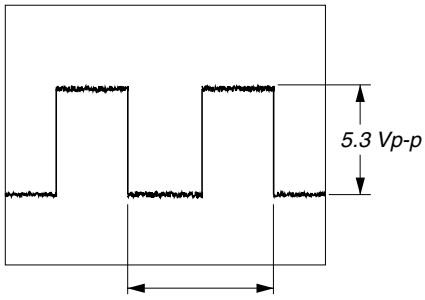
❺ IC1101, 1201, 1301 ⑥ (XTI) NOTE 2



❻ IC1101, 1201, 1301 ⑥ (XTI) NOTE 1

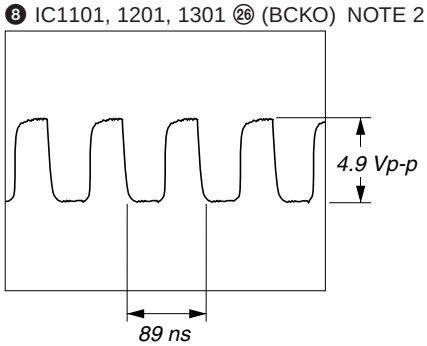


❼ IC1101, 1201, 1301 ㉘ (LRCI)

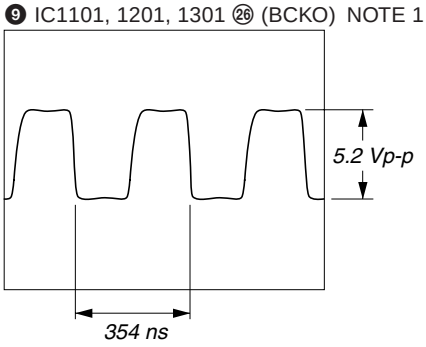


CD PLAY, FM/AM, AUX ANALOG AUDIO MODE: 22.7 µs
AUX DIGITAL AUDIO MODE: 90.8 µs

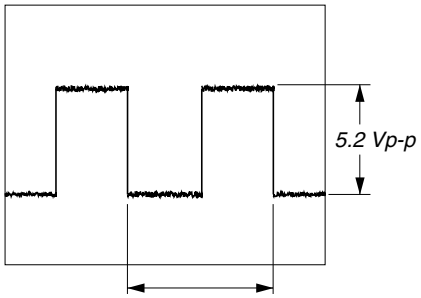
❽ IC1101, 1201, 1301 ㉖ (BCKO) NOTE 2



❾ IC1101, 1201, 1301 ㉖ (BCKO) NOTE 1

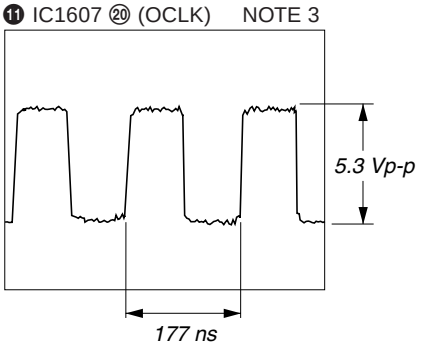


❿ IC1101, 1201, 1301 ㉕ (WCKO)

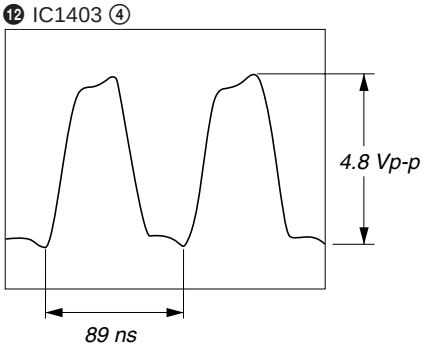


CD PLAY, FM/AM, AUX ANALOG AUDIO MODE: 2.84 µs
AUX DIGITAL AUDIO MODE: 11.3 µs

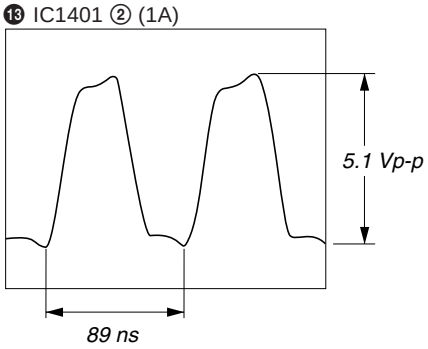
⓫ IC1607 ⑳ (OCLK) NOTE 3



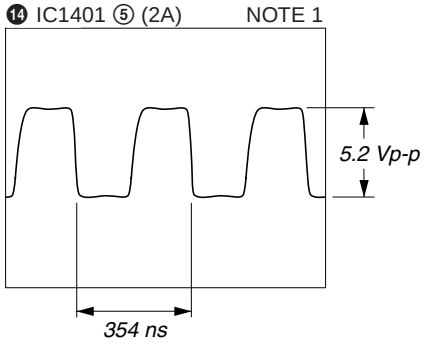
⓬ IC1403 ④



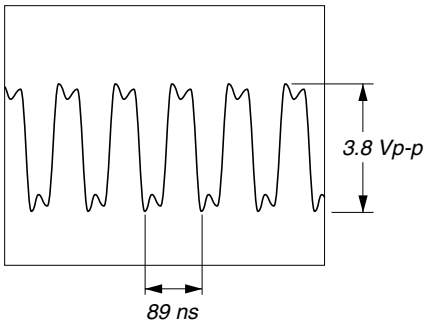
⓭ IC1401 ② (1A)



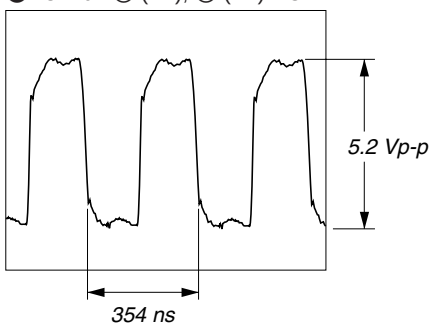
⓮ IC1401 ⑤ (2A) NOTE 1



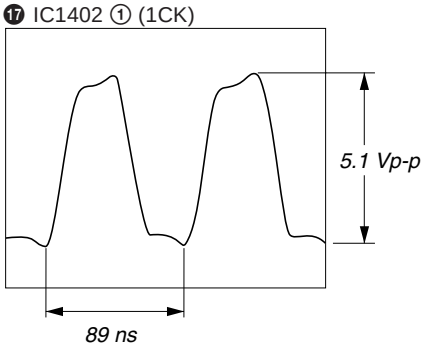
⓯ IC1401 ③ (1Y), ⑥ (2Y) NOTE 2



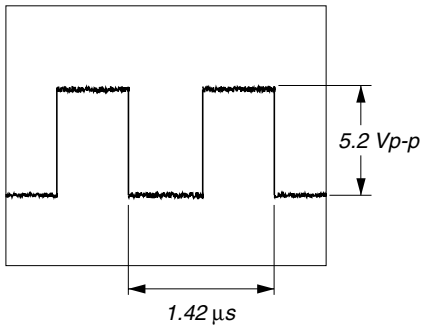
⓰ IC1401 ③ (1Y), ⑥ (2Y) NOTE 1



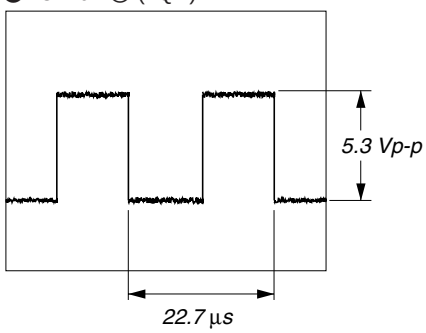
⓱ IC1402 ① ($\overline{1CK}$)



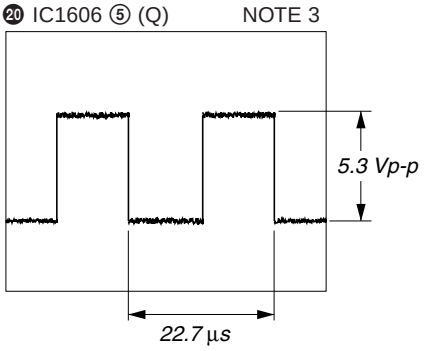
⓲ IC1402 ⑥ (1QD)



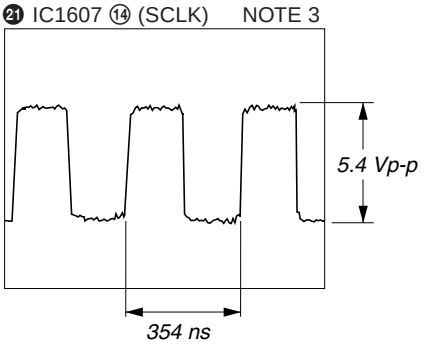
⓳ IC1402 ⑧ (2QD)



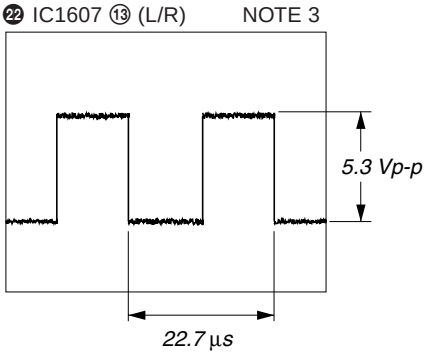
⓴ IC1606 ⑤ (Q) NOTE 3



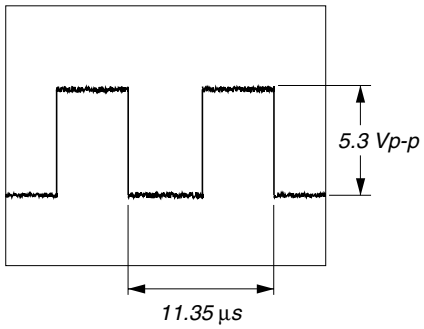
㉑ IC1607 ⑭ (SCLK) NOTE 3



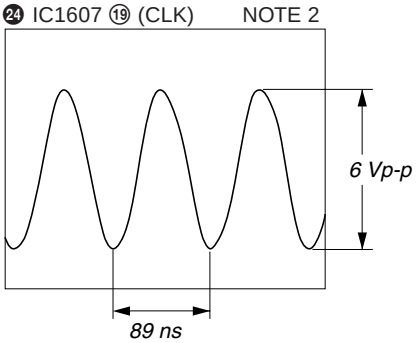
㉒ IC1607 ⑬ (L/R) NOTE 3



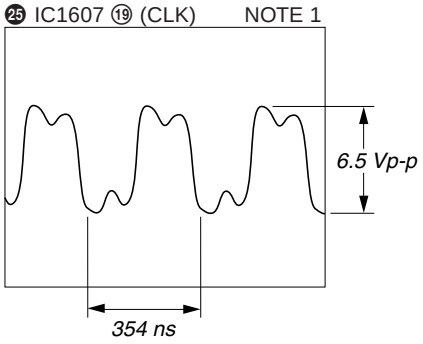
㉓ IC1607 ⑯ (FSYNC) NOTE 3



㉔ IC1607 ⑲ (CLK) NOTE 2



㉕ IC1607 ⑲ (CLK) NOTE 1



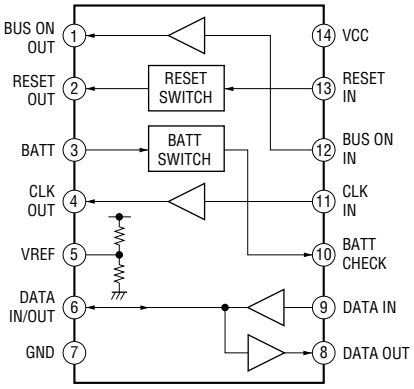
Notes:

1. AUX DIGITAL AUDIO mode.
2. CD PLAY, FM/AM, and AUX ANALOG AUDIO mode.
3. FM/AM and AUX ANALOG AUDIO mode.

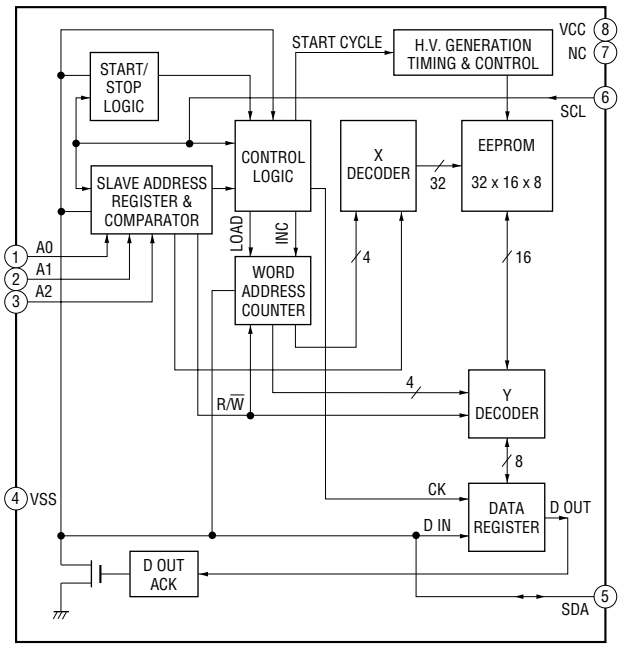
• IC Block Diagram

– MAIN Board –

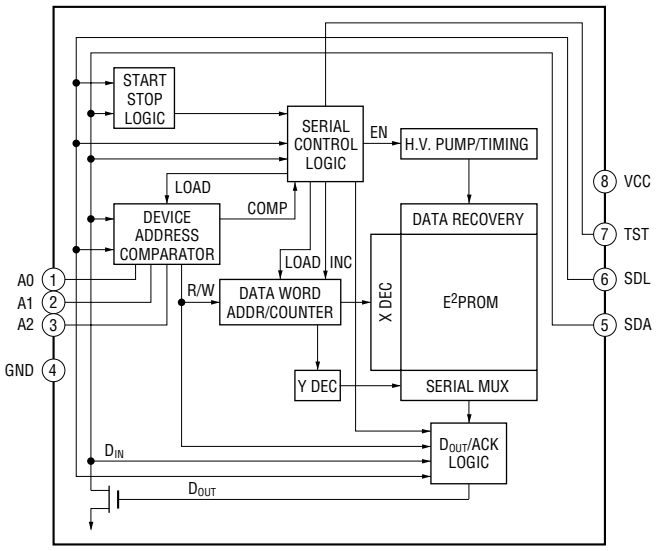
IC503 MM1175XF-T1



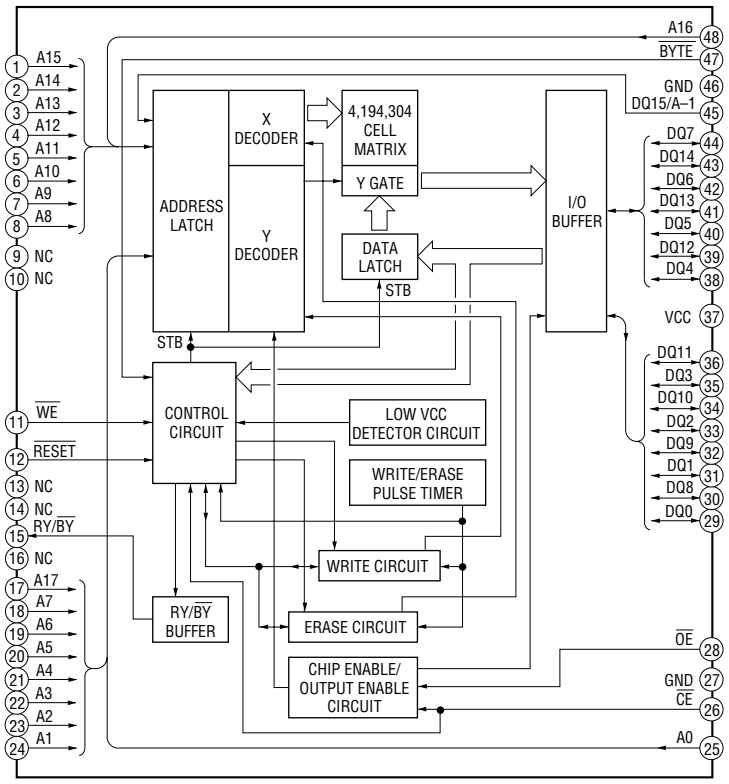
IC515 NM24C04EM8-FL63



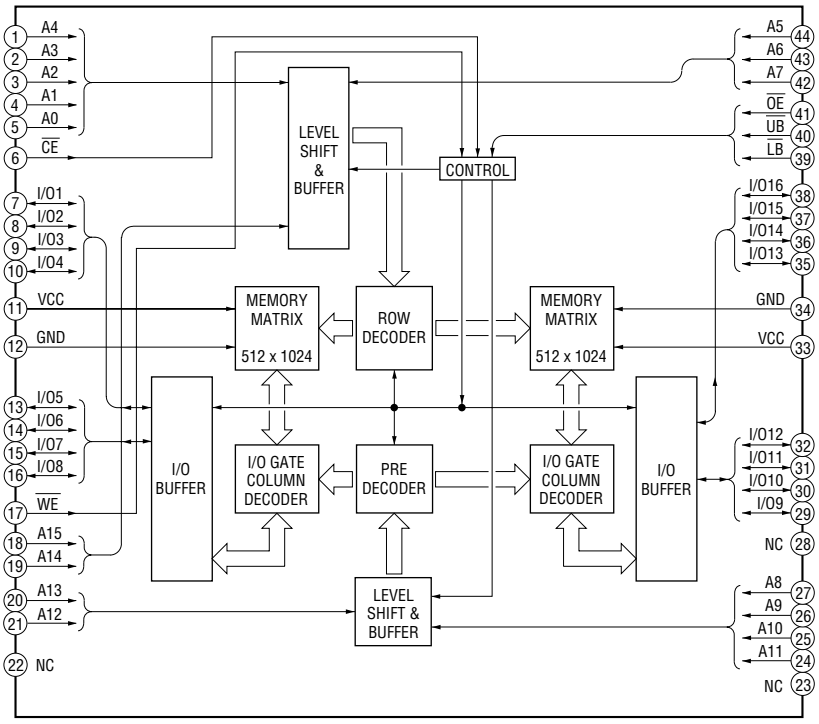
IC516 AT24C08N-10SI-SL383B



IC804 MBM29F400BA-70PFTN-MA02

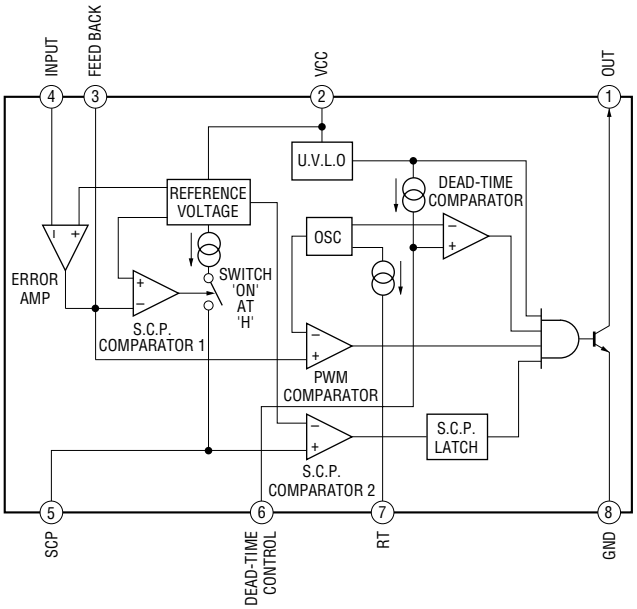


IC805 CXK516100TM-70LL-TL

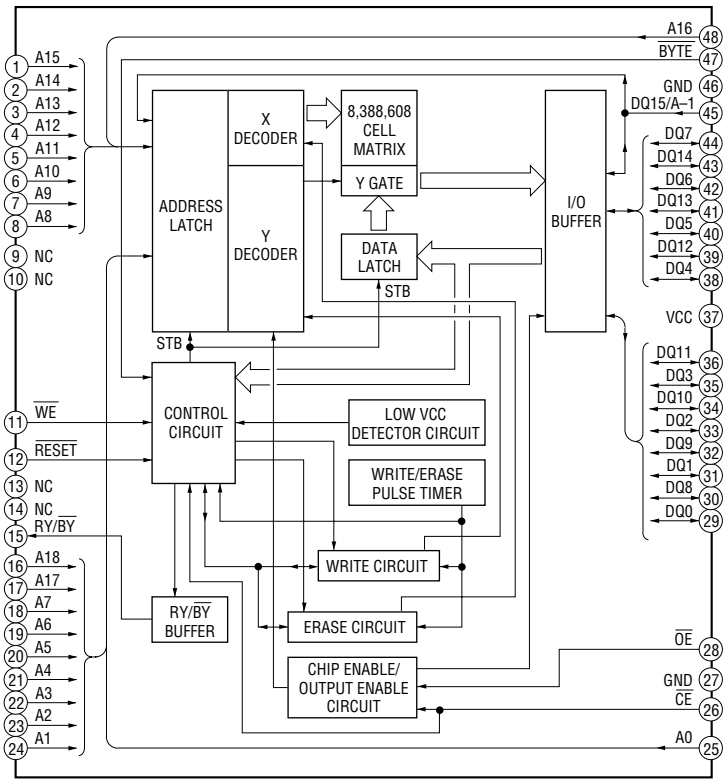


– DISPLAY Board –

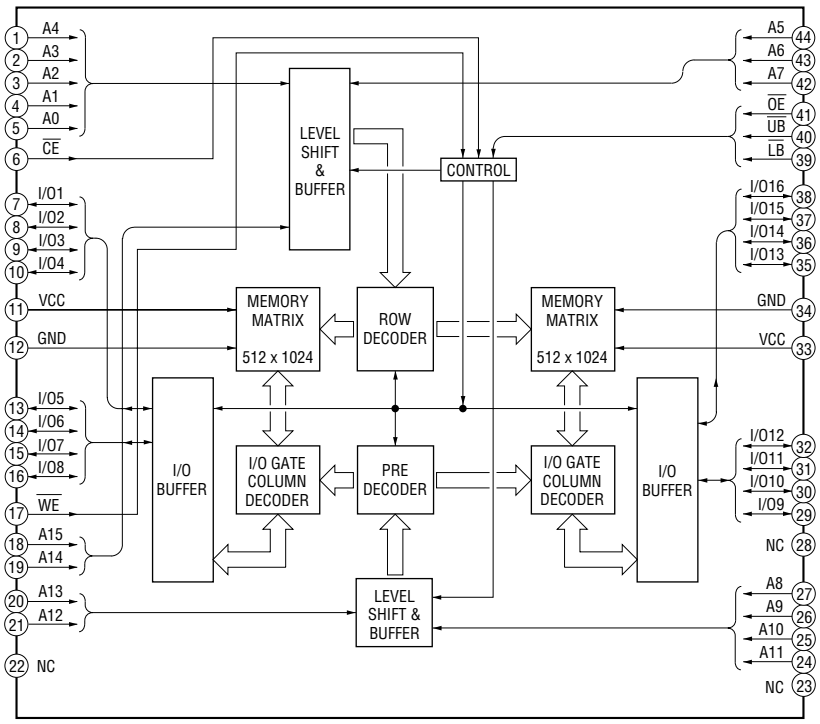
IC801 TL5001CD



IC931 MBM29F800-DISPU

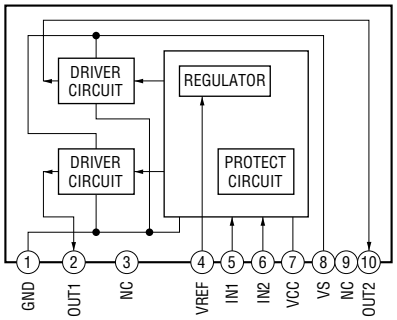


IC932 CXK516100TM-70LL-TL



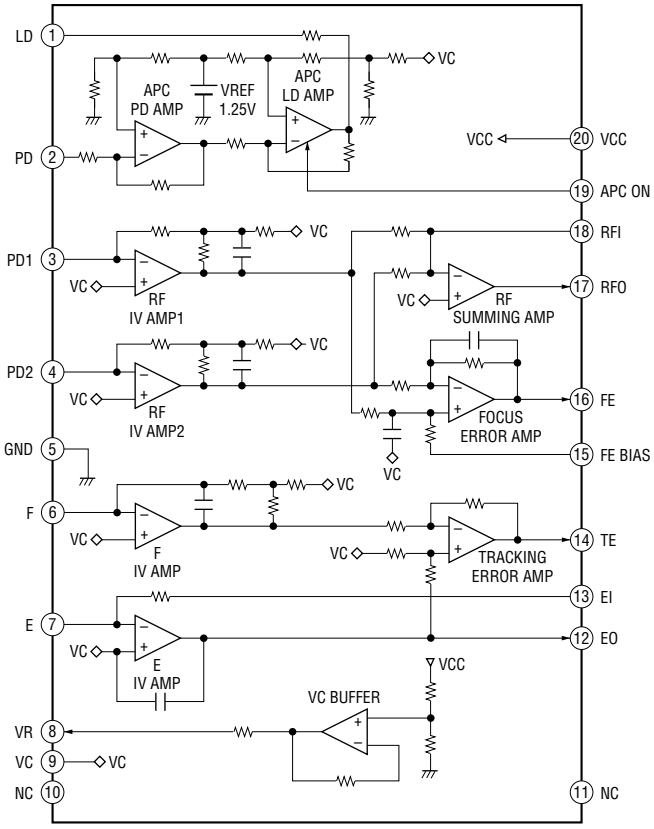
– OPEN/CLOSE 2 Board –

IC11 TA7291P

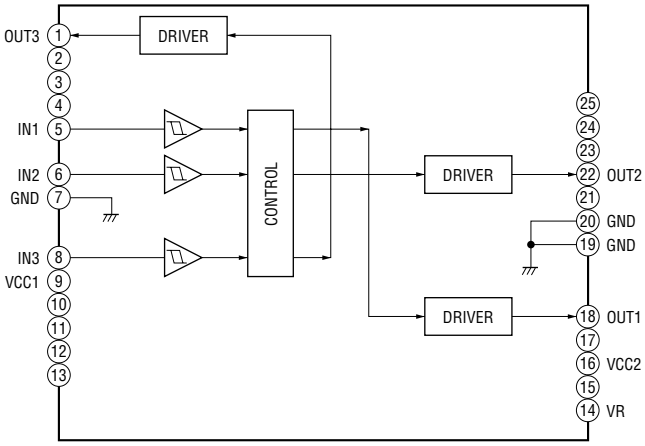


– DRIVER Board –

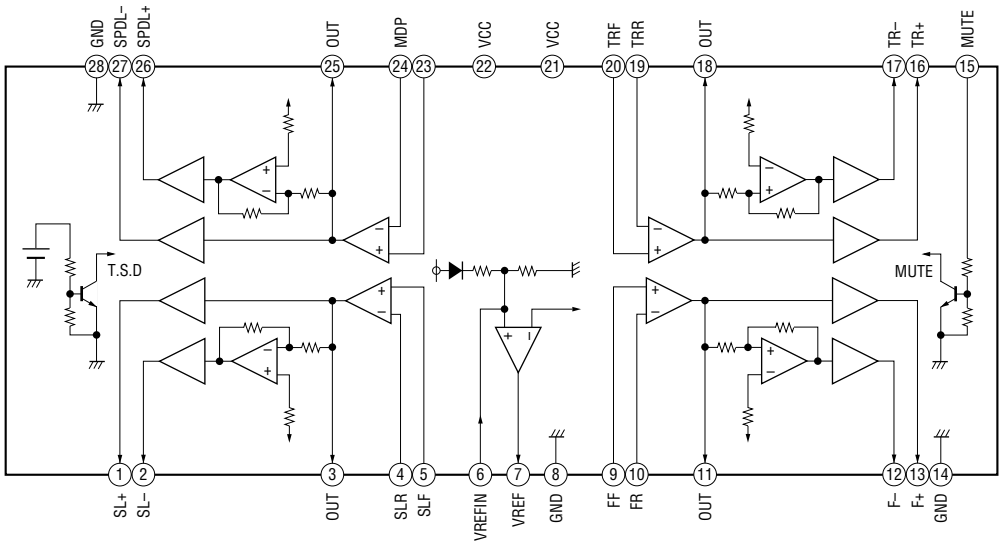
IC101 CXA1791M-T6



IC201 BA6247FP-Y

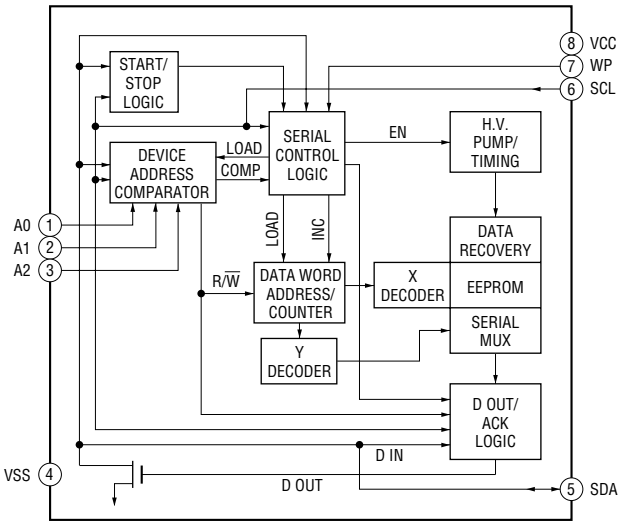


IC202 BA6297AFP

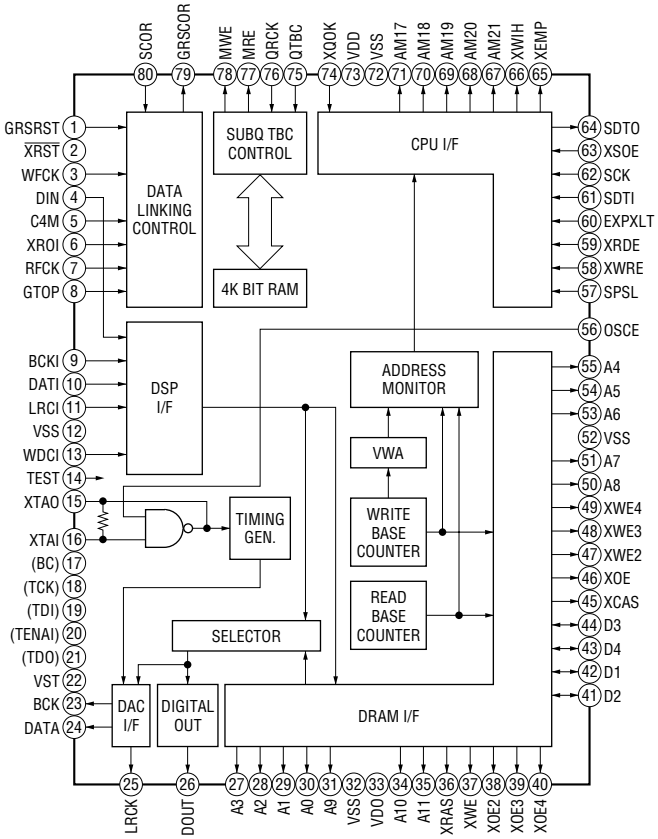


– CHANGER Board –

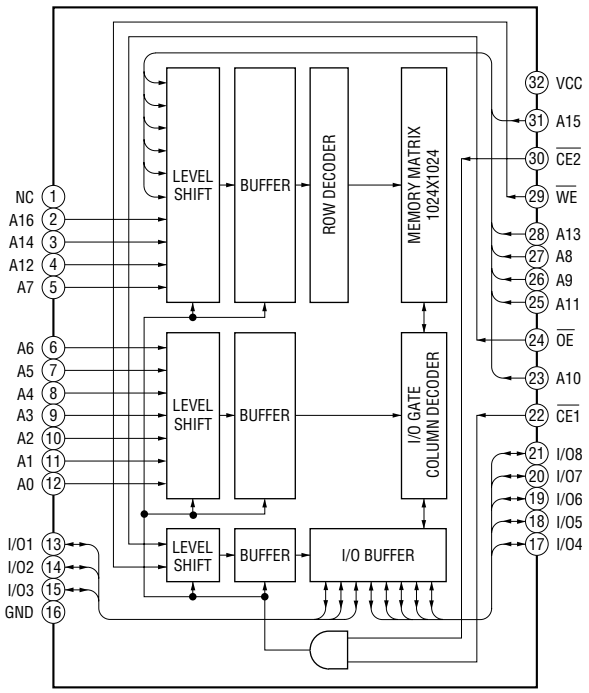
IC302 AT24C32N-10SI-TR



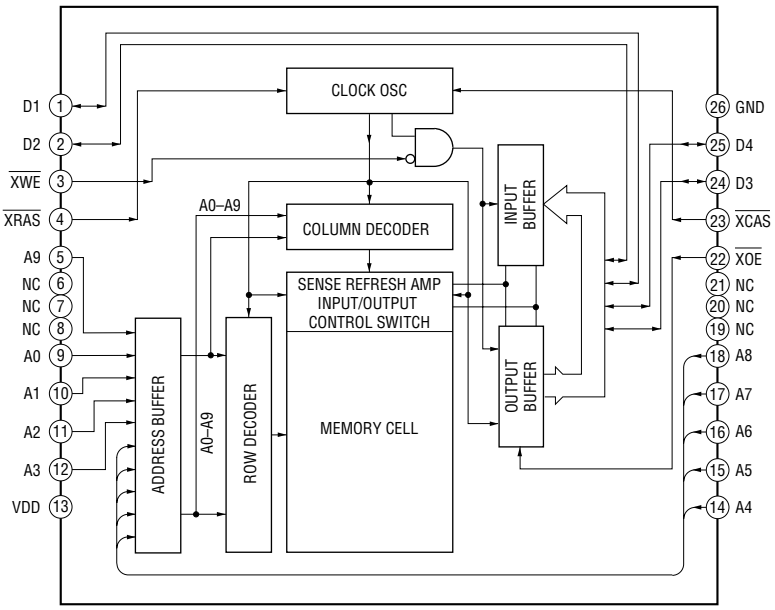
IC401 CXD2512AQ



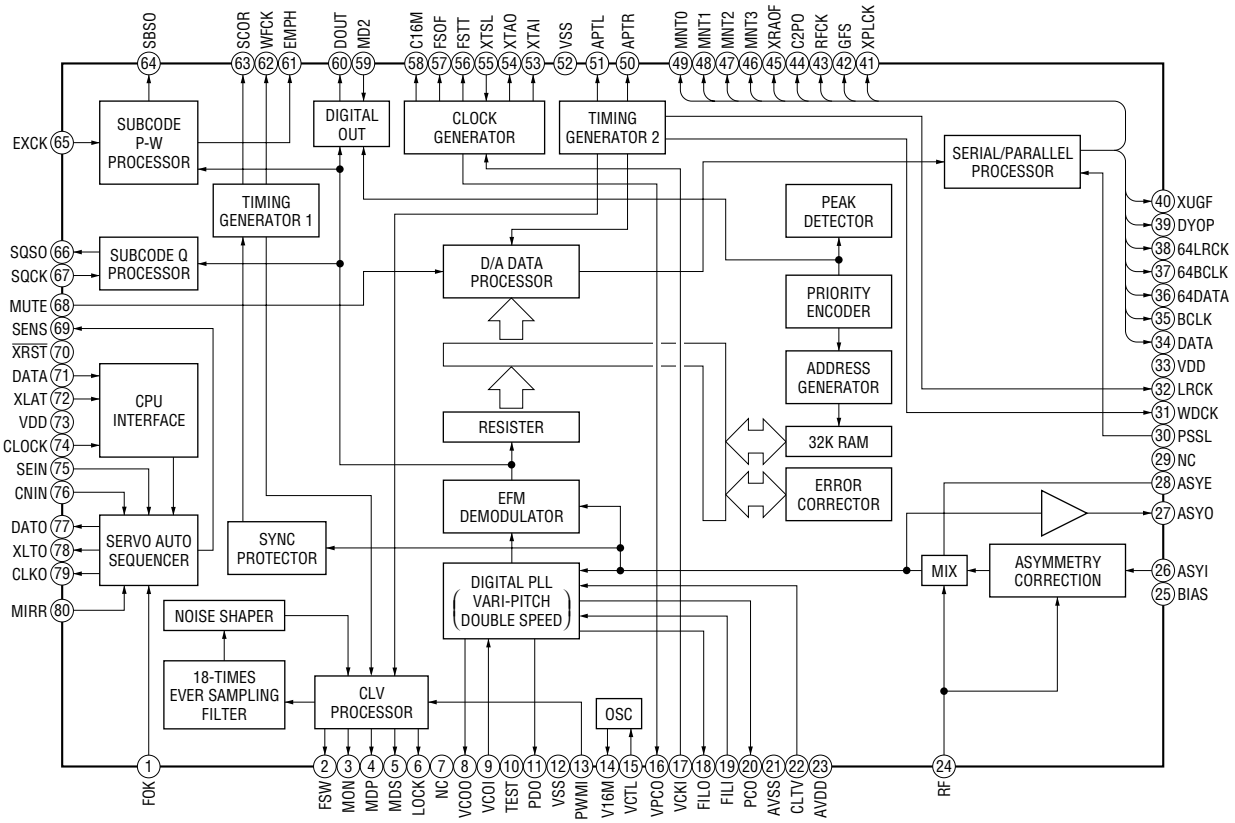
IC304 CXK581000AM-10LL



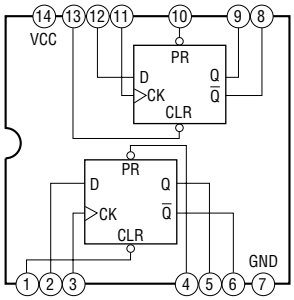
IC402, 403 µPD424400GS-60-9JD



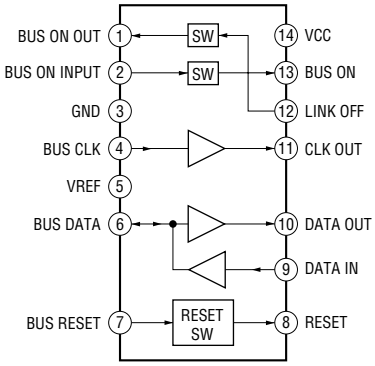
IC501 CXD2540Q



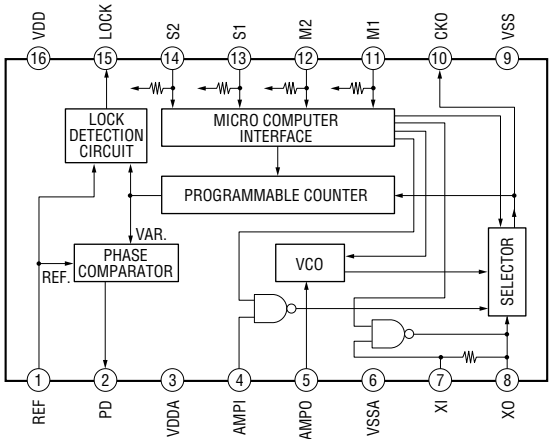
IC502 SN74HC74ANS



IC951 MM1284XFFE

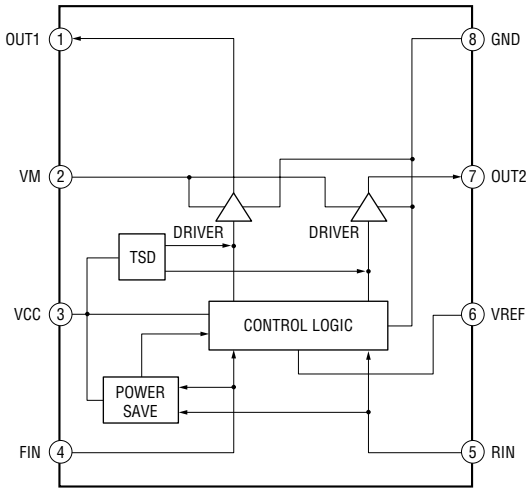


IC503 TC9246F-TP1

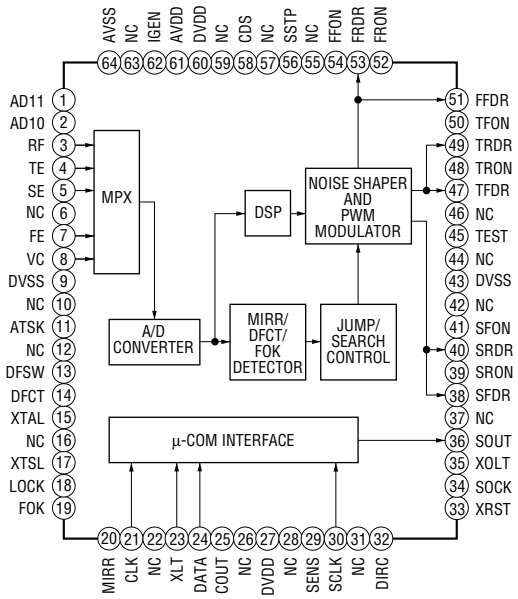


– SW Board –

IC801 BA6287F

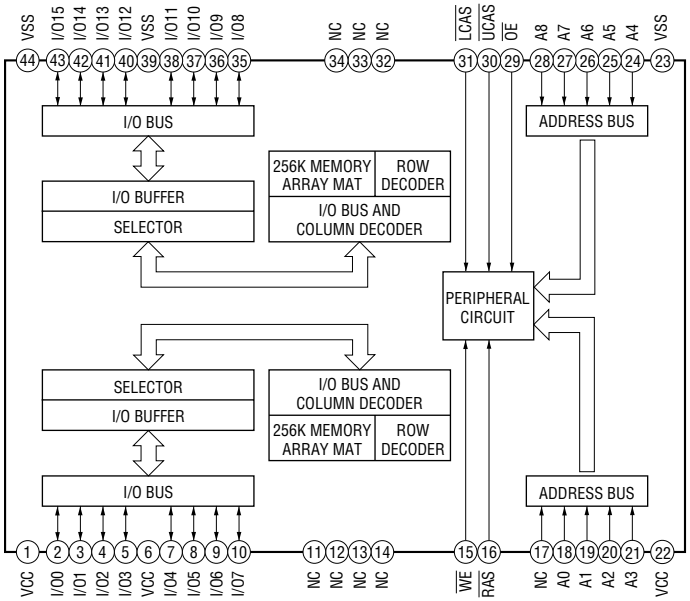


IC601 CXD2501Q

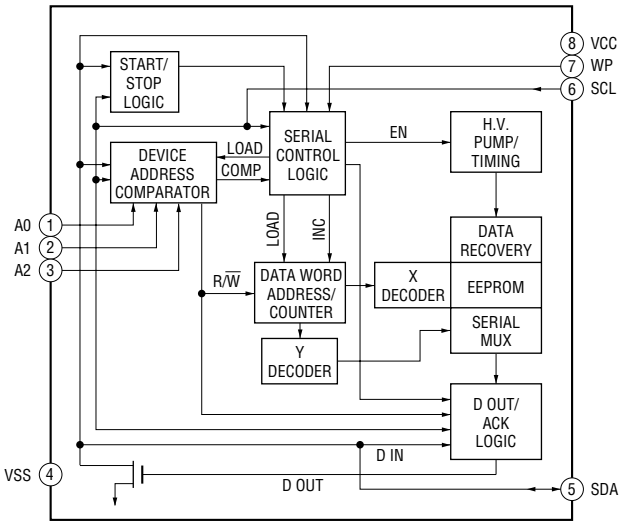


– DSP Board –

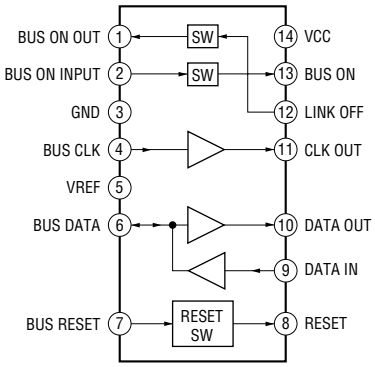
IC102, 202 HM51W4260CLTT-7


VSS I/O15 I/O14 I/O13 I/O12 VSS I/O11 I/O10 I/O9 I/O8
44 43 42 41 40 39 38 37 36 35
NC NC NC
34 33 32
LCAS UCAS OE
31 30 29
A8 A7 A6 A5 A4 VSS
28 27 26 25 24 23
I/O BUS
I/O BUFFER
SELECTOR
256K MEMORY ARRAY MAT
ROW DECODER
I/O BUS AND COLUMN DECODER
ADDRESS BUS
PERIPHERAL CIRCUIT
SELECTOR
I/O BUFFER
I/O BUS AND COLUMN DECODER
256K MEMORY ARRAY MAT
ROW DECODER
I/O BUS
ADDRESS BUS
1 2 3 4 5 6 7 8 9 10
11 12 13 14
15 16
17 18 19 20 21 22
VCC I/O0 I/O1 I/O2 I/O3 VCC I/O4 I/O5 I/O6 I/O7
NC NC NC NC
WE RAS
NC A0 A1 A2 A3 VCC

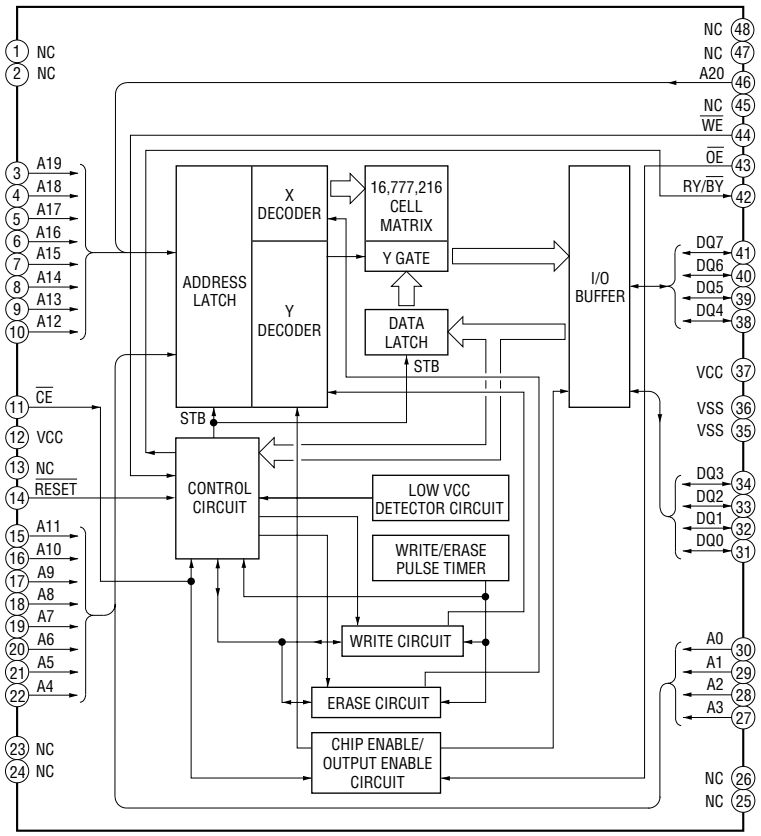
IC302 AT24C32N-10SI-TR



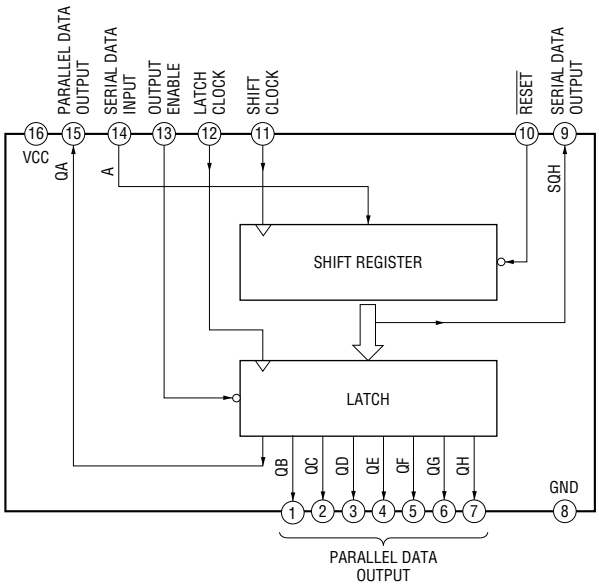
IC306 MM1284XFFE



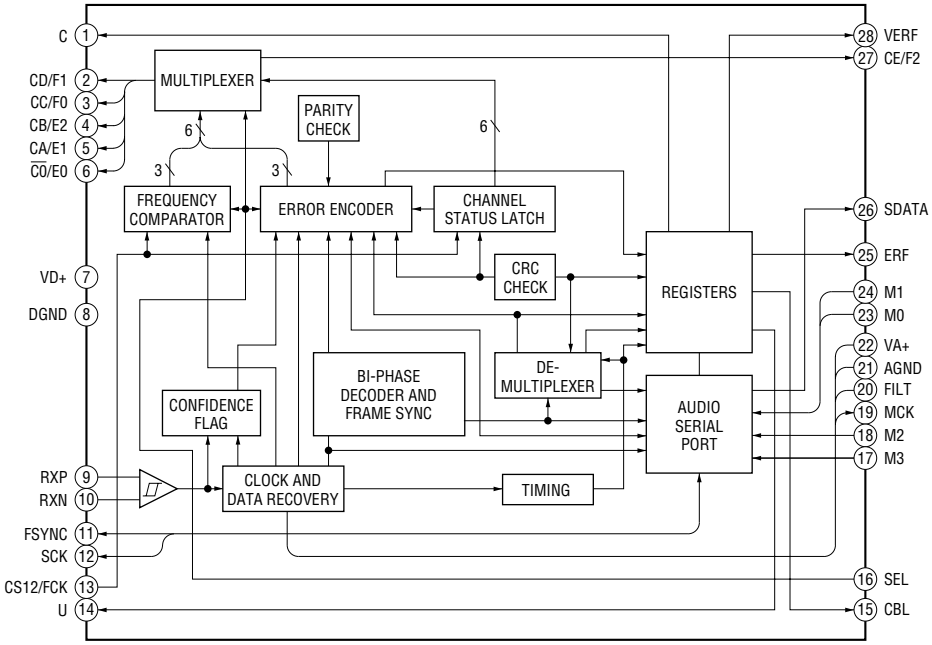
IC401 MBM29F016-90PFTN-DSP02L
IC402 MBM29F016-90PFTN-DSP02H



IC415 TC74VHC595FS (EL)

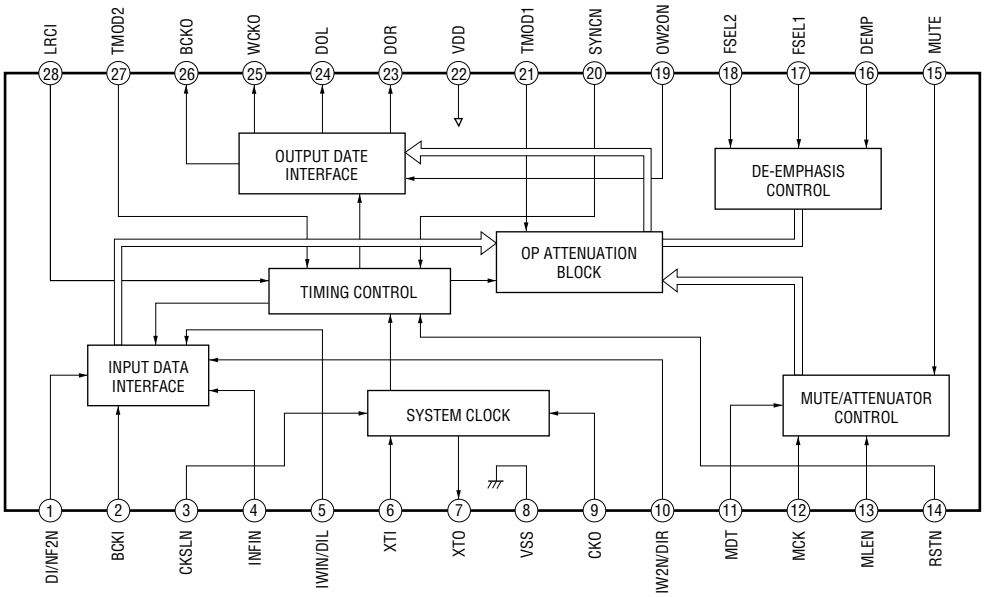


IC502 CS8412-IS-E1



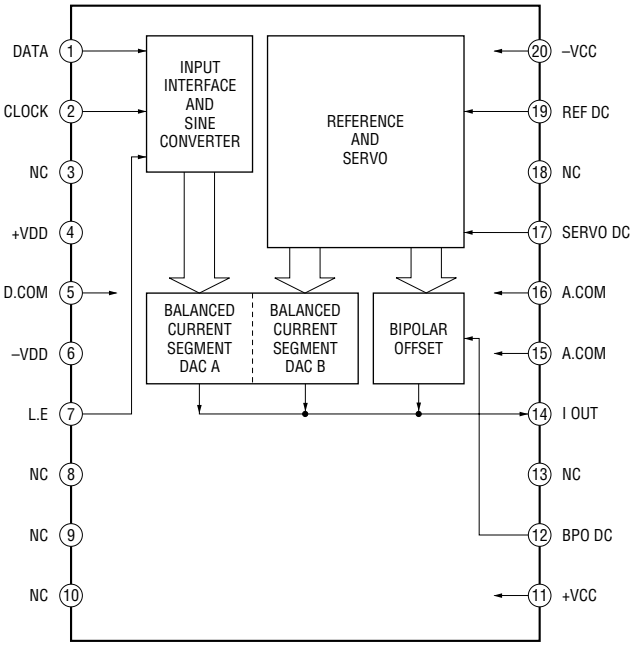
– DAC Board –

IC1101, 1201, 1301 SM5843AS1-ET

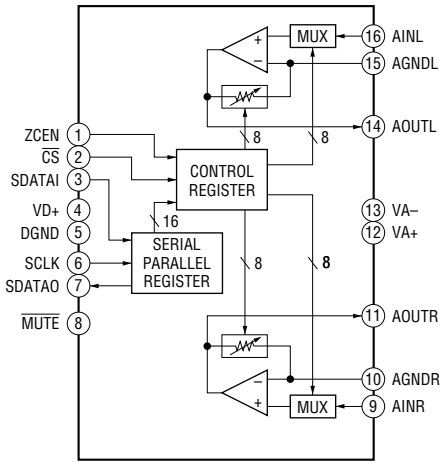


IC1102, 1103, 1202 PCM1702U-K-T1

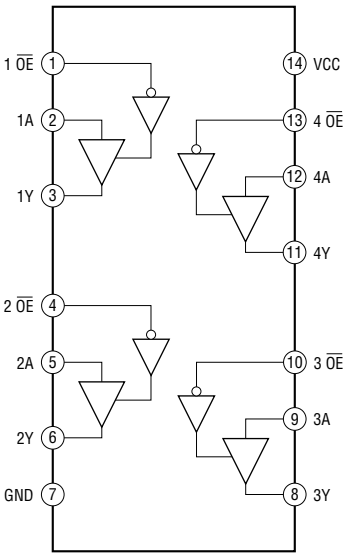
IC1203, 1302, 1303



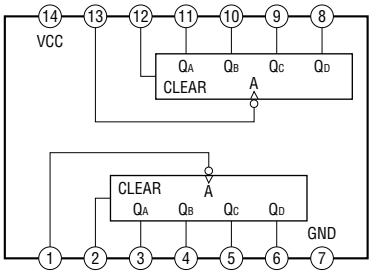
IC1106, 1206, 1306 CS3310-KP



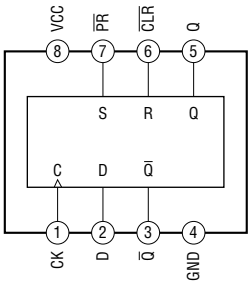
IC1401 TC74VHC125F (EL)



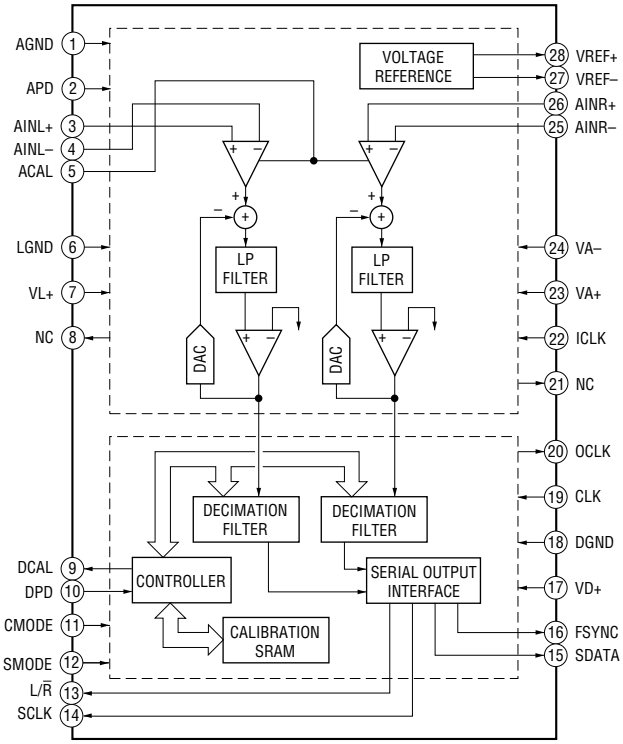
IC1402 TC74VHC393F (EL)



IC1606 TC7W74FU



IC1607 AK5390-VS



SECTION 8
EXPLODED VIEWS

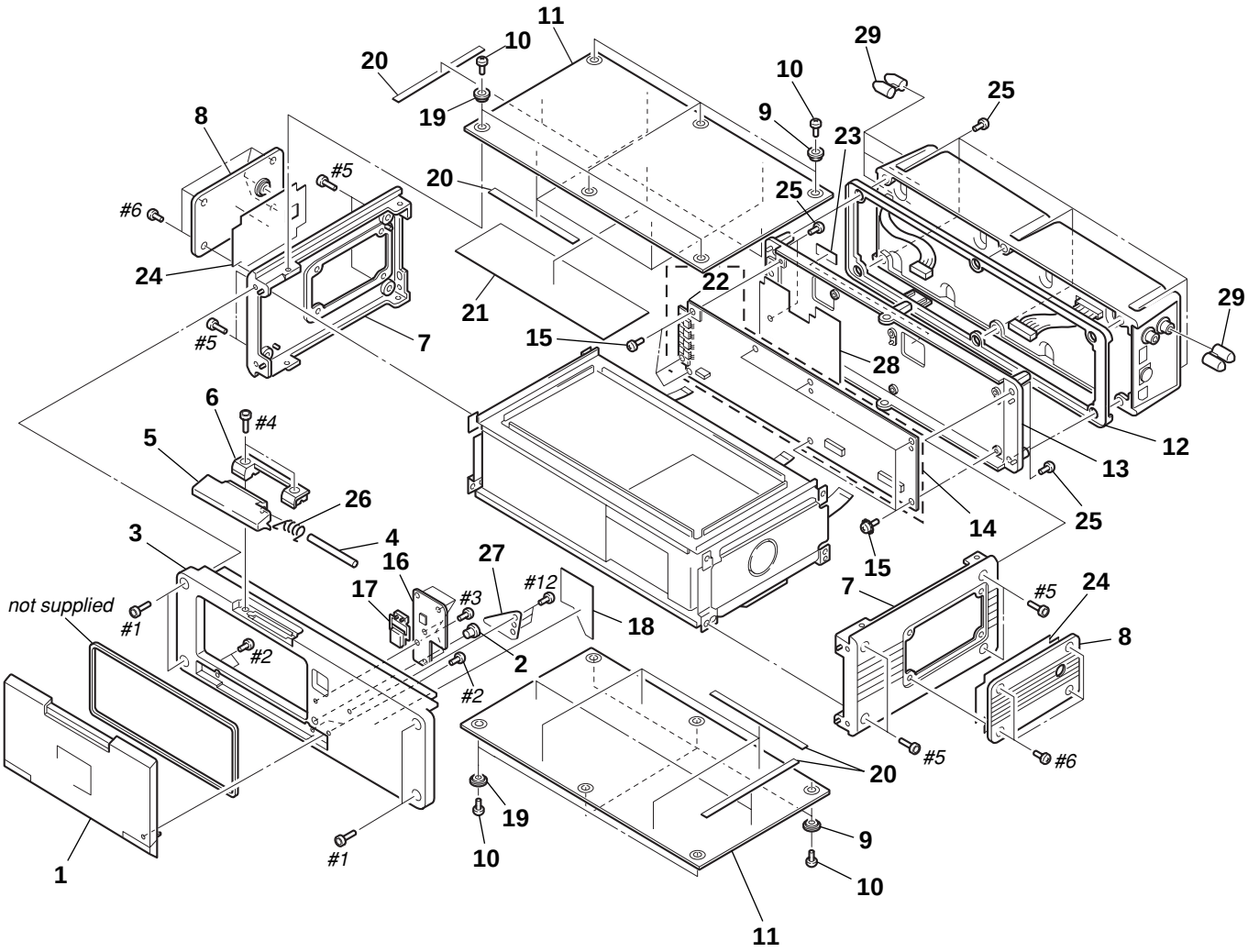
NOTE:

- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearrance Parts
  Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories are given in the last of the electrical parts list.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

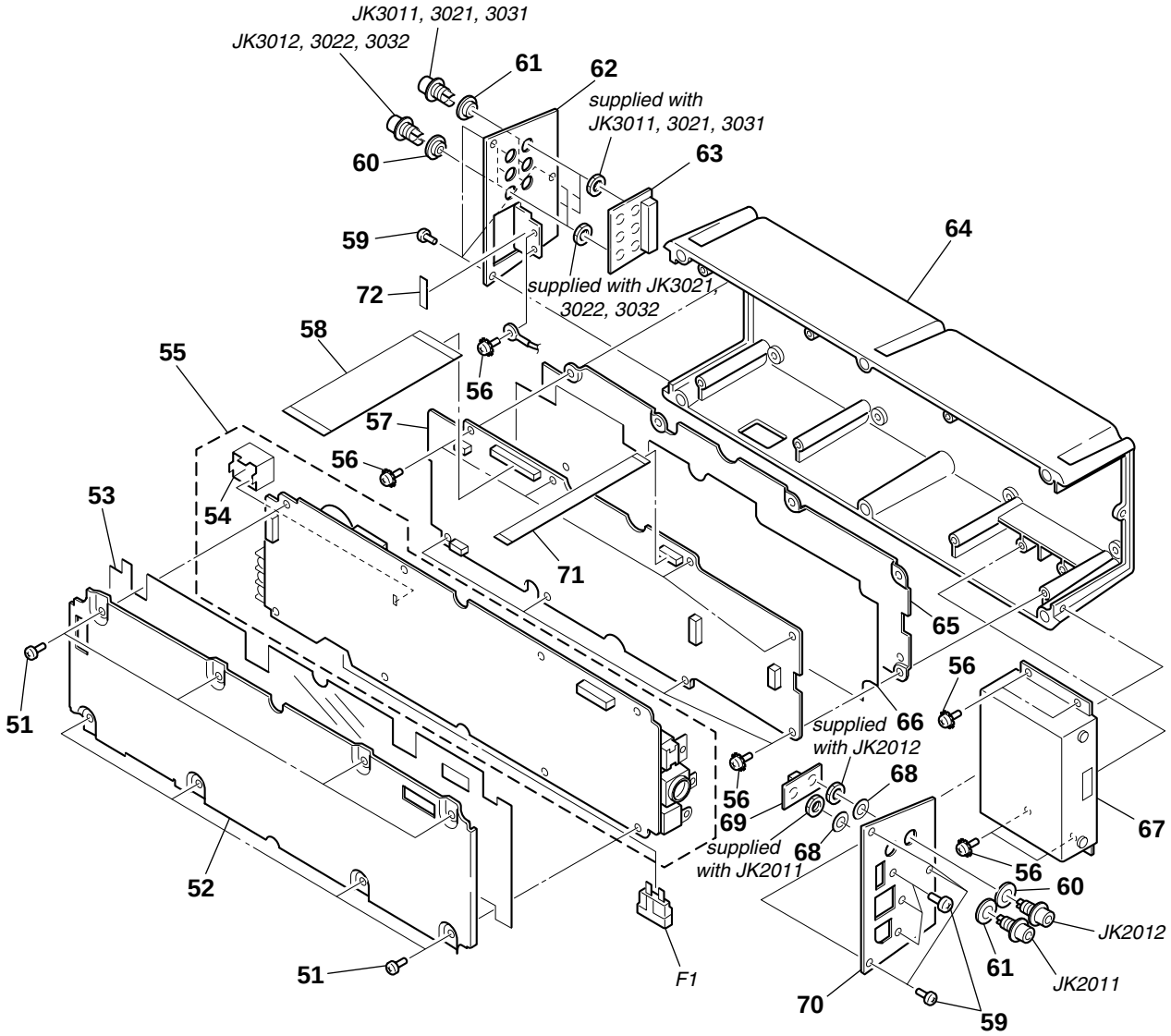
Les composants identifiés par une marque ⚠ sont critiquens pour la sécurité.
Ne les remplacer que par une pièce portant le neméro spécifié.

(1) CD CHANGER MAIN SECTION-1



Ref. No.	Part No.	Description	Remark
1	X-3373-780-1	DOOR ASSY	
2	3-011-745-01	SHAFT (OPEN)	
3	3-008-192-01	PANEL, FRONT	
4	3-008-201-01	SHAFT (BUCKLE)	
5	3-008-199-01	LEVER (BUCKLE)	
6	3-008-193-01	BRACKET (BUCKLE)	
* 7	3-008-195-01	PANEL, SIDE	
* 8	3-008-196-01	COVER (SIDE PANEL)	
* 9	3-008-216-01	SPACER (COVER)	
10	4-924-242-71	SCREW (M3X6), FLAT HEAD	
* 11	3-008-194-02	COVER (UPPER. LOWER)	
12	3-009-030-01	SEAL (DSP)	
* 13	3-010-364-01	PANEL, REAR	
* 14	A-3309-787-A	CHANGER BOARD, COMPLETE	
15	3-931-071-01	SCREW (+PTT 2.6X8 CU. C)	
* 16	1-664-114-12	EJT BOARD	
* 17	3-008-211-01	BUTTON (EJECT) (⏏)	
* 18	3-015-121-01	SHEET (CD FRONT PANEL)	
* 19	3-008-216-11	SPACER (COVER)	
* 20	3-015-115-01	SHEET (CD COVER, UPPER. LOWER)	
* 21	3-015-114-01	SHEET (CD COVER UPPER, BARREL)	
* 22	3-008-214-01	HEAT SINK (SUB)	
* 23	3-014-549-01	SHEET (REAR PANEL)	
* 24	3-015-120-01	SHEET (CD SIDE COVER)	
25	3-014-840-01	SCREW (3X6) (BARREL PLATING), +B	
26	3-008-215-01	SPRING (BUCKLE OPEN)	
27	3-011-744-01	SPRING (OPEN)	
* 28	3-013-097-01	SHEET (CHG), INSULATING	
29	3-355-210-11	COVER (2), PIN JACK	

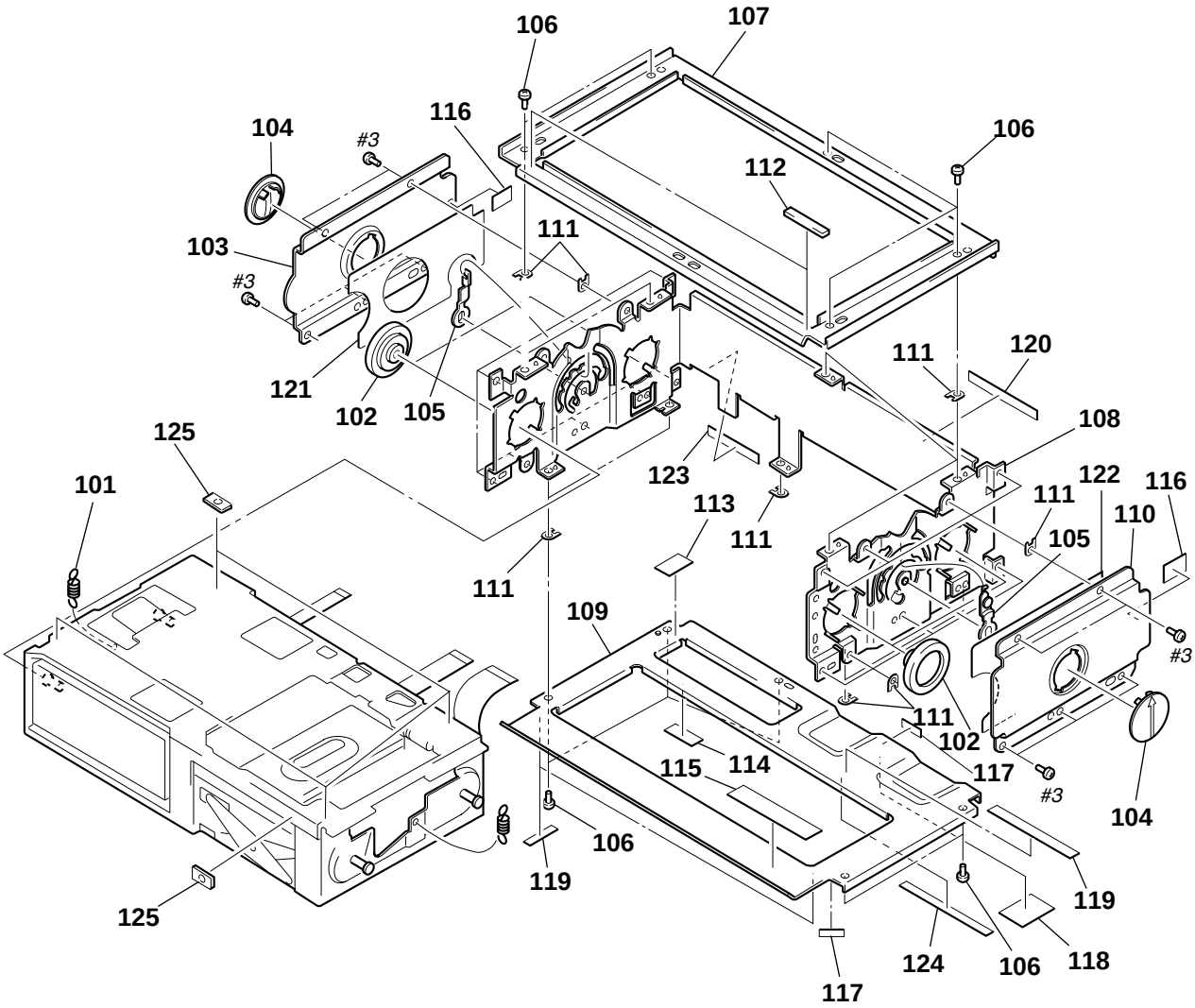
(2) CD CHANGER MAIN SECTION-2



Ref. No.	Part No.	Description	Remark
51	3-906-712-01	SCREW (2.6X6) (CU), +PTT	
* 52	3-008-486-01	CHASSIS (DSP. B)	
* 53	3-011-971-02	SHEET (B), INSULATING	
* 54	3-008-595-01	CASE (DSP BOARD), SHIELD	
* 55	A-3309-657-A	DSP BOARD, COMPLETE	
56	3-906-713-01	SCREW (+PTT), GROUND POINT	
* 57	A-3309-659-A	DAC BOARD, COMPLETE	
58	1-782-287-11	CABLE, FLAT (FWCF) (30 CORE)	
59	3-912-956-01	SCREW (2.6X4) (CU), +BVTT	
60	3-366-821-01	BUSHING (RED)	
61	3-366-821-11	BUSHING (WHITE)	
* 62	3-008-484-01	CHASSIS (DSP. L)	
* 63	1-664-164-12	LINE OUT BOARD	
* 64	3-008-483-01	CHASSIS (DSP. MAIN)	
* 65	3-008-586-01	CHASSIS (INNER)	
* 66	3-011-970-01	SHEET (A), INSULATING	
67	1-473-994-11	DC/DC CONVERTER UNIT	
* 68	3-366-820-03	SHEET (D), INSULATING	
* 69	1-664-165-12	LINE IN BOARD	

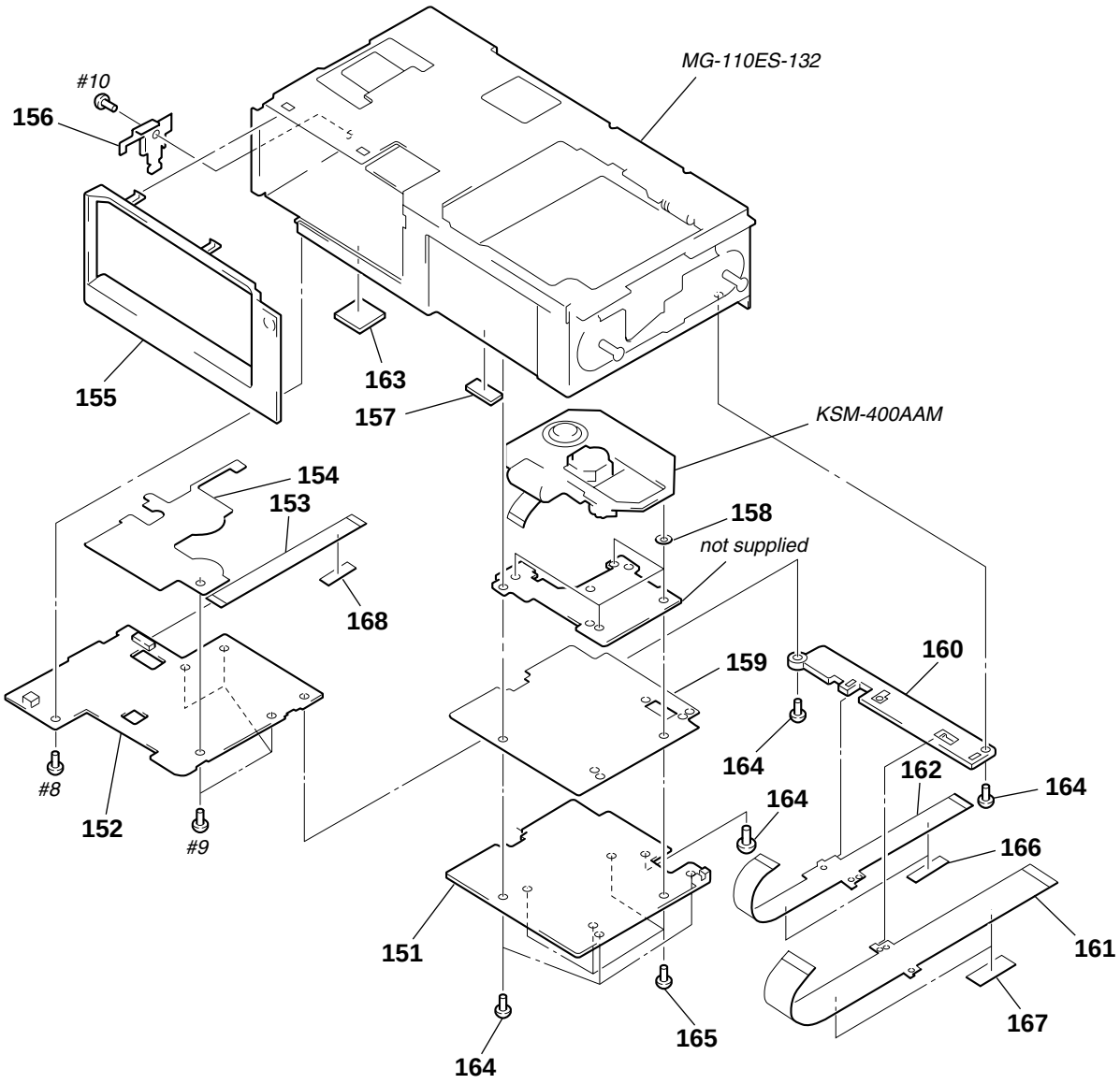
Ref. No.	Part No.	Description	Remark
* 70	3-008-485-01	CHASSIS (DSP. R)	
71	1-782-286-11	CABLE, FLAT (FWCF) (8 CORE)	
72	3-014-160-01	SPACER (POWER)	
F1	1-532-796-11	FUSE (BLADE TYPE) (AUTO FUSE) (5A)	
JK2011	1-573-057-21	JACK, PIN 1P (WHITE)	(ANALOG IN AUX AUDIO L)
JK2012	1-573-057-31	JACK, PIN 1P (RED)	(ANALOG IN AUX AUDIO R)
JK3011	1-573-057-21	JACK, PIN 1P (WHITE)	(LINE OUT HIGH FRONT L)
JK3012	1-573-057-31	JACK, PIN 1P (RED)	(LINE OUT HIGH FRONT R)
JK3021	1-573-057-21	JACK, PIN 1P (WHITE)	(LINE OUT MID REAR L)
JK3022	1-573-057-31	JACK, PIN 1P (RED)	(LINE OUT MID REAR R)
JK3031	1-573-057-21	JACK, PIN 1P (WHITE)	(LINE OUT SUB WOOFER L)
JK3032	1-573-057-31	JACK, PIN 1P (RED)	(LINE OUT SUB WOOFER R)

(3) CD CHANGER MAIN SECTION-3



Ref. No.	Part No.	Description	Remark
101	3-923-342-01	SPRING (FL2), TENSION	
102	3-375-501-01	DAMPER (CNG)	
* 103	3-008-203-01	COVER (DAMPER L)	
104	3-375-504-21	LEVER (SPRING)	
105	X-3370-157-1	ARM (SPRING 2) ASSY	
106	3-912-956-01	SCREW (2.6X4) (CU), +BVTT	
* 107	3-008-207-01	CHASSIS (TOP)	
* 108	3-008-209-01	CHASSIS (MID)	
* 109	3-008-208-01	CHASSIS (DOWN)	
* 110	3-008-204-01	COVER (DAMPER R)	
* 111	3-013-100-01	SPACER (CHASSIS)	
* 112	3-013-236-01	SHEET (CHASSIS TOP)	
* 113	3-014-551-01	SHEET (FLEXIBLE RETAINER)	
* 114	3-015-118-01	SHEET (CD INNER CHASSIS. REAR S)	
* 115	3-015-116-01	SHEET (CD INNER CHASSIS. FRONT)	
* 116	3-014-561-01	SHEET (BLIND)	
* 117	3-014-550-01	SHEET (LEAD)	
* 118	3-015-119-01	SHEET (CD INNER CHASSIS. REAR L)	
* 119	3-013-238-02	SHEET (CHASSIS DOWN B)	
120	3-013-615-01	SHEET (CHASSIS MID)	
* 121	3-013-138-02	SHEET (DAMPER L)	
* 122	3-013-139-02	SHEET (DAMPER R)	
* 123	3-014-492-01	SHEET (CHASSIS MID 2)	
* 124	3-013-237-02	SHEET (CHASSIS DOWN A)	
* 125	3-014-970-01	SHEET (STOPPER)	

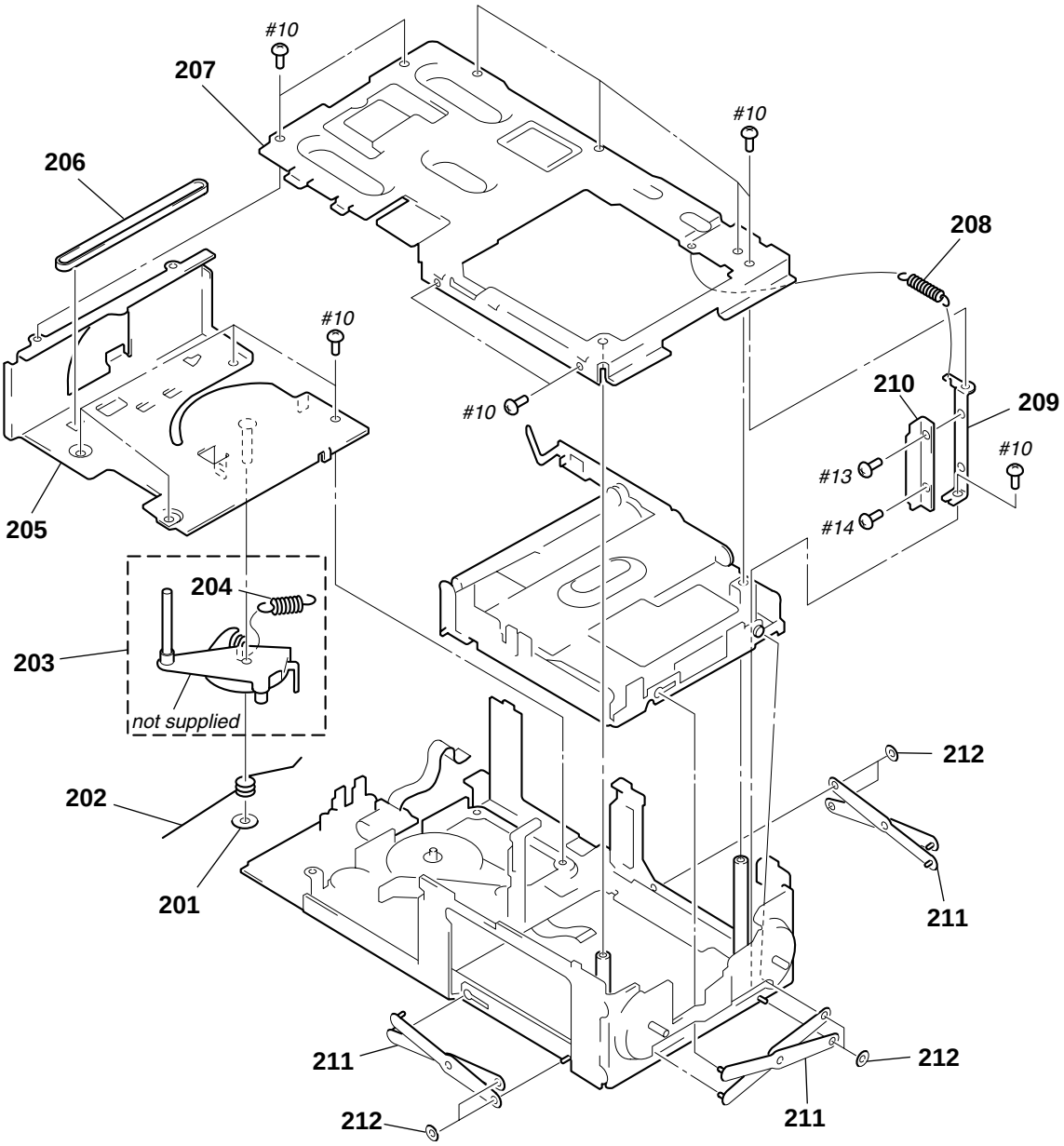
(4) CD CHANGER MAIN SECTION-4



Ref. No.	Part No.	Description	Remark
* 151	A-3309-668-A	DRIVER BOARD, COMPLETE	
* 152	1-664-111-12	SW BOARD	
153	1-664-157-11	SWITCH FLEXIBLE BOARD	
* 154	3-368-567-01	SHEET (MD), INSULATING	
155	3-388-593-11	ESCUTCHEON (2)	
* 156	3-922-950-01	BRACKET (TR2)	
* 157	3-928-691-01	CUSHION (EV)	
158	3-387-948-01	SPACER (W)	
* 159	3-922-150-01	SHEET (EV), INSULATING	

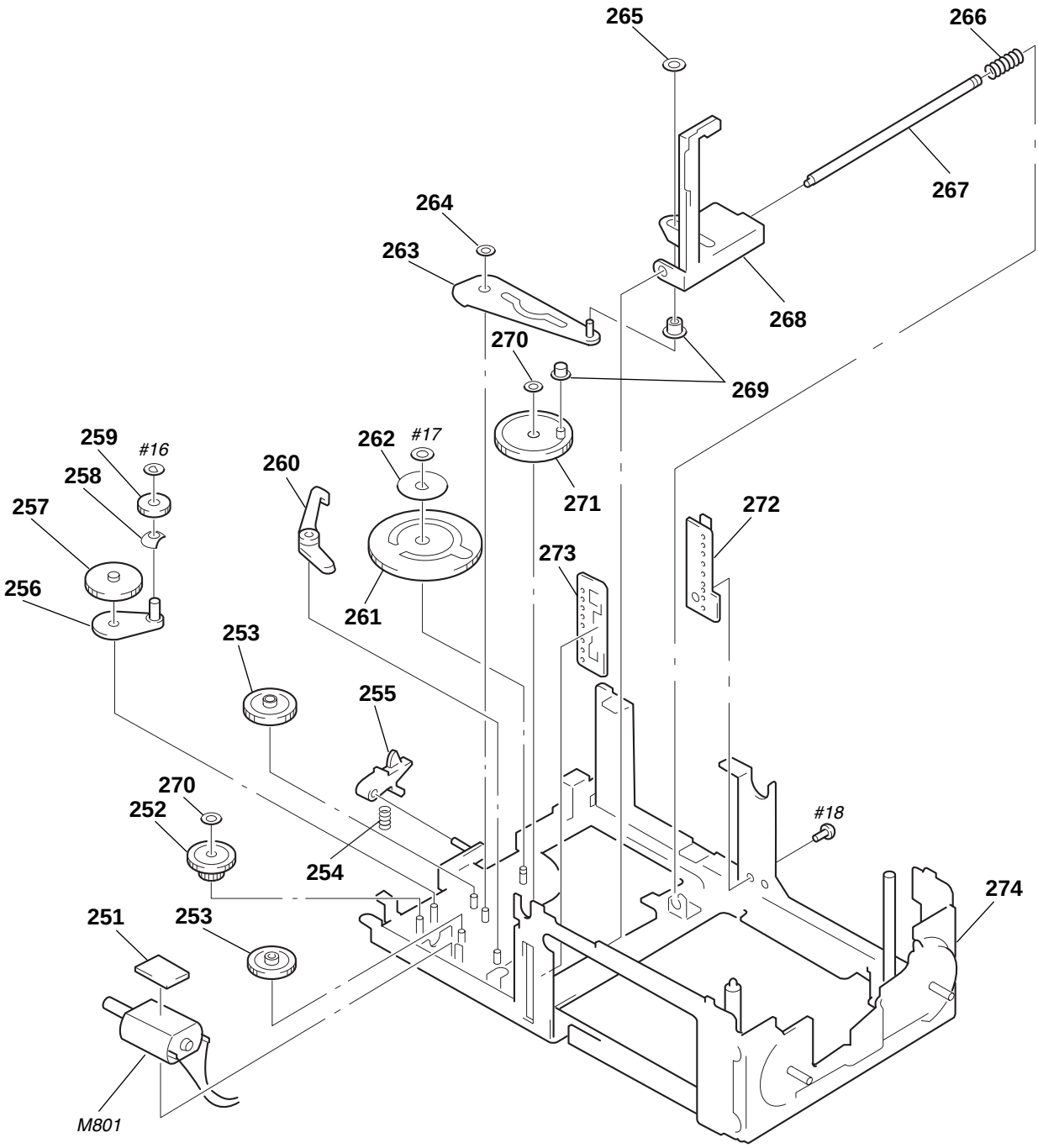
Ref. No.	Part No.	Description	Remark
* 160	3-008-217-01	BRACKET (FPC)	
161	1-664-155-11	RF FLEXIBLE BOARD	
162	1-664-156-11	DRIVER FLEXIBLE BOARD	
163	3-350-124-01	CUSHION (EJECT)	
164	3-015-343-01	SCREW (2X5) (BARREL PLATING)	
165	3-015-342-01	SCREW (2X6) (BARREL PLATING)	
* 166	3-013-096-01	CUSHION (FLEXIBLE)	
* 167	3-013-096-11	CUSHION (FLEXIBLE)	
* 168	3-013-096-21	CUSHION (FLEXIBLE)	

(5) MECHANISM DECK SECTION-1 (MG-110ES-132)



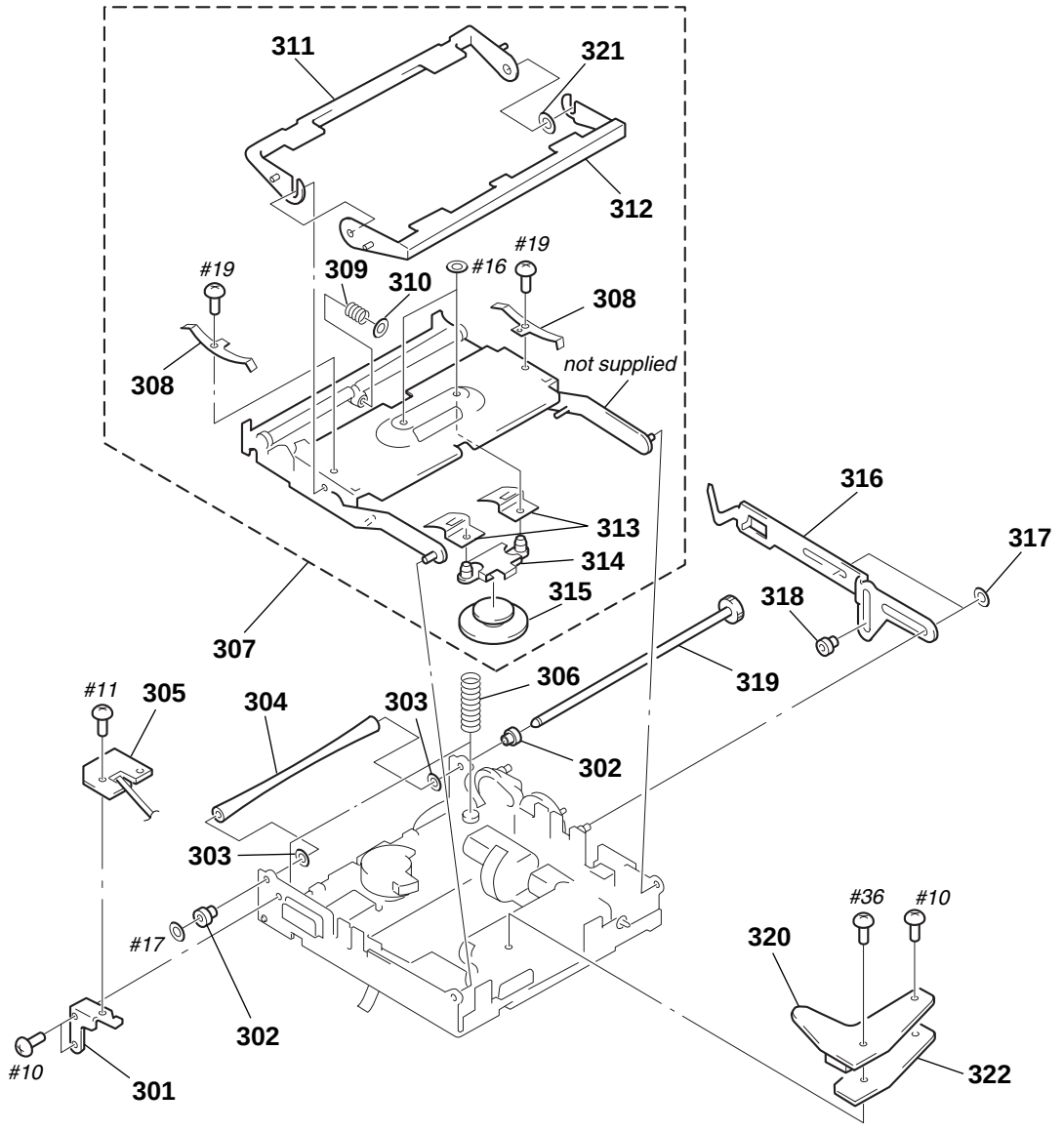
Ref. No.	Part No.	Description	Remark
201	3-911-104-01	WASHER	
202	3-013-099-01	SPRING (EJES)	
203	X-3371-264-1	LEVER (NET) ASSY	
204	3-927-978-01	SPRING, TENSION	
* 205	X-3372-885-1	CHASSIS (MZ.EK) ASSY	
* 206	3-911-106-11	GUIDE (MZ2)	
* 207	X-3372-963-1	COVER (MDEK) ASSY	
208	3-931-995-01	SPRING (EV), TENTION	
209	3-931-453-01	RACK (110)	
210	3-930-600-01	RACK (EV)	
211	X-3371-384-1	LEVER (X) ASSY	
212	3-377-719-01	WASHER, POLYETHYLENE	

(6) MECHANISM DECK SECTION-2 (MG-110ES-132)



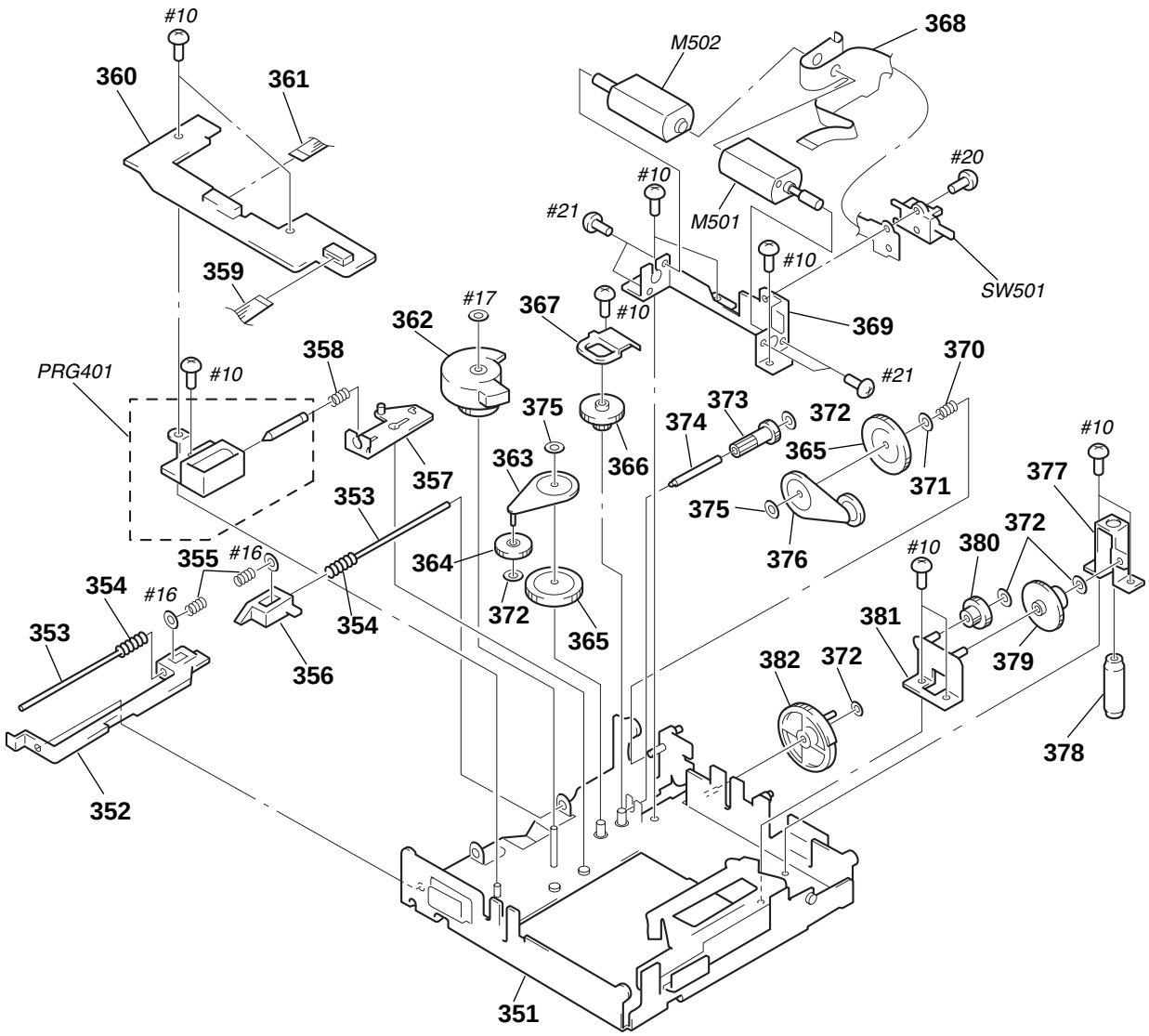
Ref. No.	Part No.	Description	Remark
251	3-911-105-11	CUSHION (M)	
252	3-911-090-01	WHEEL (B2), WORM	
253	3-911-076-11	GEAR (MS)	
254	3-927-977-01	SPRING, COMPRESSION	
255	3-908-794-01	LEVER (T2) (MZ LOCK)	
256	X-3371-253-1	LEVER (KMZT) ASSY	
257	3-911-074-02	GEAR (L2)	
258	3-364-387-11	SPRING (F)	
259	3-912-977-01	GEAR (KS2)	
260	3-911-083-01	ARM (DR)	
261	3-910-400-01	GEAR (EJ3), CAM	
262	3-373-013-01	SPRING (EJ CAM)	
263	X-3371-256-1	LEVER (DRT) ASSY	
264	3-377-720-01	WASHER, POLYETHYLENE	
265	3-379-490-11	WASHER, POLYETHYLENE	
266	3-568-315-01	SPRING, COMPRESSION	
* 267	3-911-093-01	SHAFT (SDR2)	
268	X-3371-255-1	SLIDER (DRT) ASSY	
269	3-364-506-01	ROLLER (SL)	
270	3-377-719-01	WASHER, POLYETHYLENE	
271	3-911-096-01	GEAR (DR2)	
272	3-375-707-02	CATCHER (B)	
273	3-375-706-03	CATCHER (F)	
* 274	X-3371-254-1	CHASSIS (MDT) ASSY	
M801	X-3373-838-1	MOTOR (P) ASSY (DISC EJECT)	

(7) MECHANISM DECK SECTION-3 (MG-110ES-132)



Ref. No.	Part No.	Description	Remark
* 301	3-930-565-01	BRACKET (DPTT)	
302	3-364-421-01	BEARING (ROLLER)	
303	3-701-438-11	WASHER, 2.5	
304	3-909-408-01	ROLLER (T)	
* 305	1-664-112-12	DPT BOARD	
306	3-364-508-01	SPRING, COMPRESSION	
307	X-3372-148-1	ARM (KR) COMPLETE ASSY	
308	3-929-743-01	SPRING (DH2)	
309	3-932-177-01	ROLLER (RK)	
310	3-341-752-11	WASHER, POLYETHYLENE	
311	X-3371-482-1	ARM (DHK) ASSY	
312	X-3371-483-1	ARM (DHK2) ASSY	
313	3-932-166-01	SPRING	
314	X-3371-484-1	BRACKET (CPK) ASSY	
315	3-915-913-01	PLATE (CD), CHUCK	
* 316	3-364-380-01	LEVER, SLIDE	
317	3-377-720-01	WASHER, POLYETHYLENE	
318	3-364-506-01	ROLLER (SL)	
319	X-3371-610-1	GEAR (K) ASSY, ROLLER	
* 320	1-664-113-12	DOE BOARD	
321	3-701-438-21	WASHER	
* 322	3-011-255-01	SPACER	

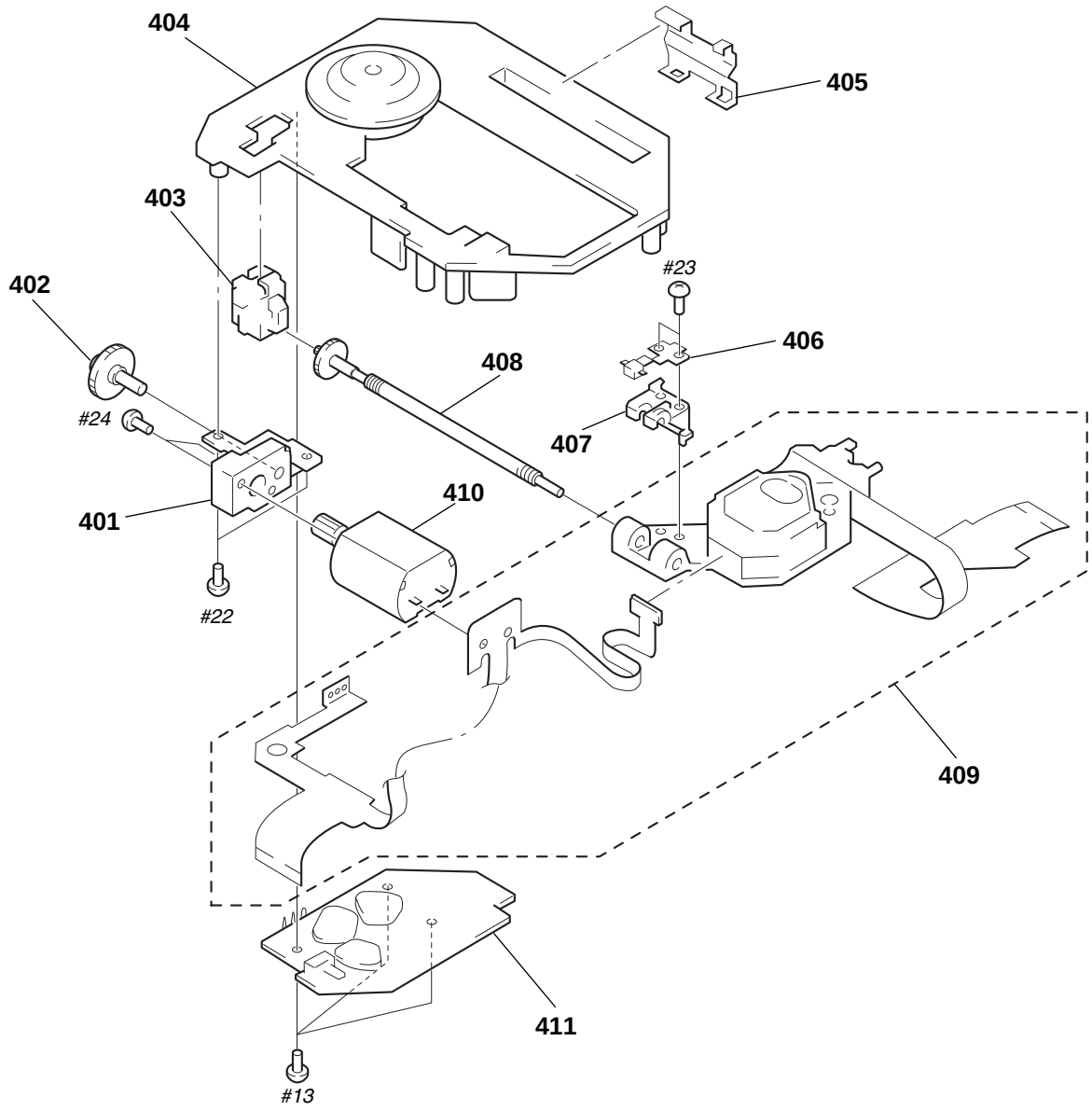
(8) MECHANISM DECK SECTION-4 (MG-110ES-132)



Ref. No.	Part No.	Description	Remark
* 351	X-3371-260-1	CHASSIS (EVT) ASSY	
352	3-911-087-01	LOCK (CLAW)	
353	3-911-097-01	SHAFT (LOCK 2)	
354	3-308-717-00	SPRING, COMPRESSION	
355	3-485-239-00	SPRING, COMPRESSION	
356	3-911-102-01	LOCK (CLAW B)	
357	X-3371-261-1	SLIDER (KRT) ASSY	
358	3-353-804-01	SPRING, COMPRESSION	
359	1-777-720-11	CABLE, FLEXIBLE FLAT (4 CORE)	
* 360	1-664-110-12	SENSOR BOARD	
361	1-777-721-11	CABLE, FLEXIBLE FLAT (8 CORE)	
362	3-364-419-01	GEAR (R), CAM	
363	X-3371-258-1	LEVER (KRAT) ASSY	
364	3-364-422-01	GEAR (K)	
365	3-364-417-11	GEAR (L)	
366	3-364-505-01	WHEEL (C), WORM	
367	3-930-566-01	COVER (GEAR T)	
368	1-643-083-11	MOTOR FLEXIBLE BOARD	

Ref. No.	Part No.	Description	Remark
369	3-930-568-02	BRACKET (EVMT)	
370	3-388-479-01	SPRING, COMPRESSION	
371	3-930-298-01	WASHER (TEFLON)	
372	3-377-719-01	WASHER, POLYETHYLENE	
373	3-911-089-01	WHEEL (R2), WORM	
374	3-911-088-01	SHAFT (WWR2)	
375	3-377-719-11	WASHER, POLYETHYLENE	
376	X-3371-259-1	GEAR (KWT) ASSY	
377	3-932-549-01	BRACKET (BEARING BK)	
378	3-932-550-01	BEARING (BK)	
379	3-364-424-02	GEAR (EV)	
380	3-910-522-01	WHEEL (2), WORM	
381	X-3371-268-1	BRACKET (EVT GEAR) ASSY	
382	3-364-418-04	GEAR (SL)	
M501	X-3373-838-1	MOTOR ASSY (ELEVATOR UP/DOWN)	
M502	X-3373-839-1	MOTOR (N) ASSY (DISC LOAD/SAVE)	
PRG401	1-454-580-21	SOLENOID, PLUNGER	
SW501	1-571-300-31	SWITCH, ROTARY (HOME/TOP DET)	

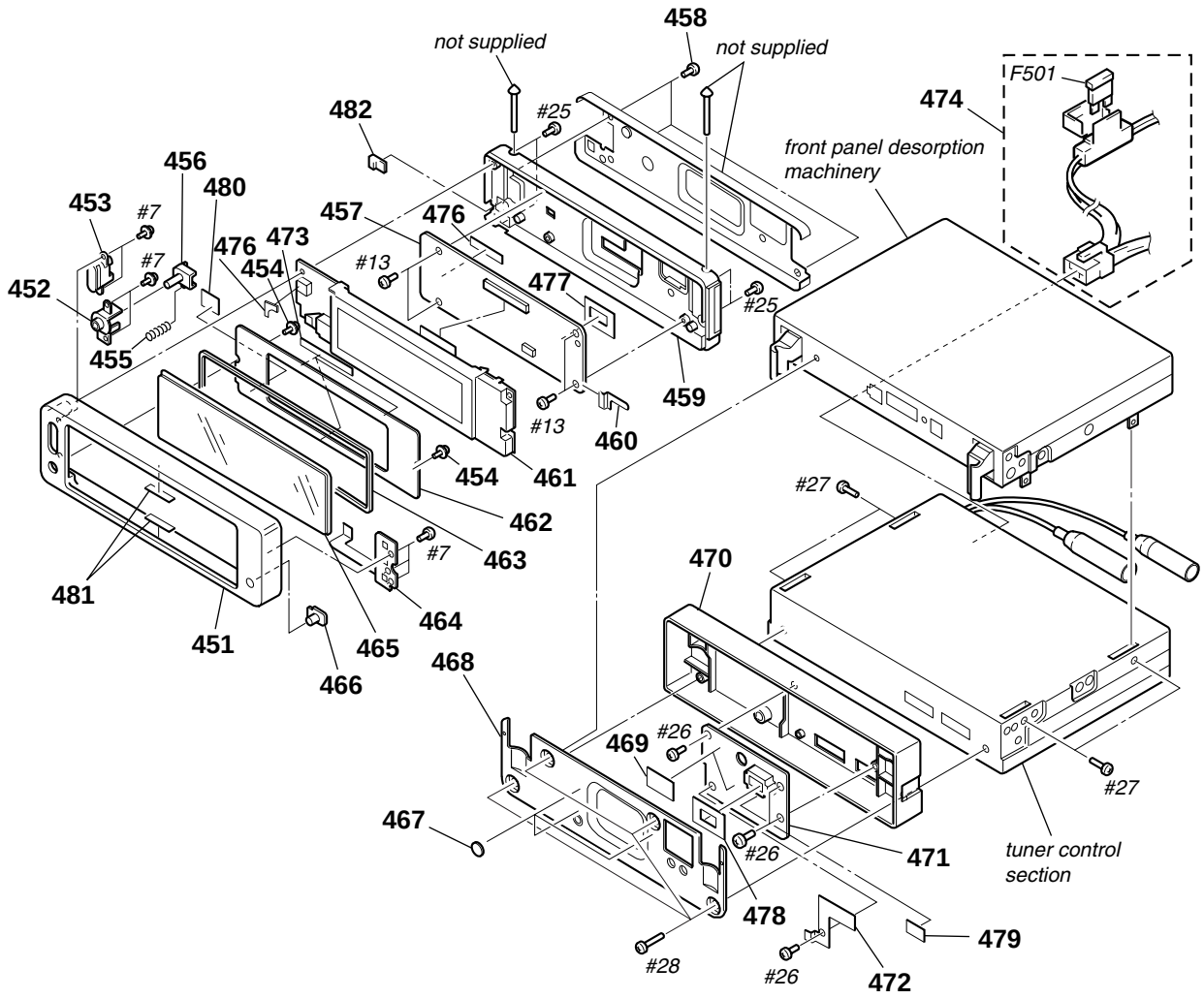
(9) OPTICAL PICK-UP SECTION (KSM-400AAM)



The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le neméro spécifié.

Ref. No.	Part No.	Description	Remark
* 401	2-625-513-01	BASE, DRIVING	
402	2-625-507-01	GEAR (B2)	
* 403	A-4019-348-B	RETAINER ASSY, THRUST	
404	X-2625-607-1	OMD CHASSIS ASSY (F)	
* 405	2-625-514-01	COVER, FLEXIBLE	
406	2-625-516-01	SPRING (A), FEED	
407	2-625-515-01	RACK (AT)	
408	X-2625-209-1	SCREW ASSY, SLED	
⚠409	8-848-310-11	OPTICAL PICK-UP KSS-400A	
410	X-2625-210-1	SLED MOTOR GEAR ASSY	
411	8-835-456-01	DC MOTOR SSC-02E01S (SPINDLE)	

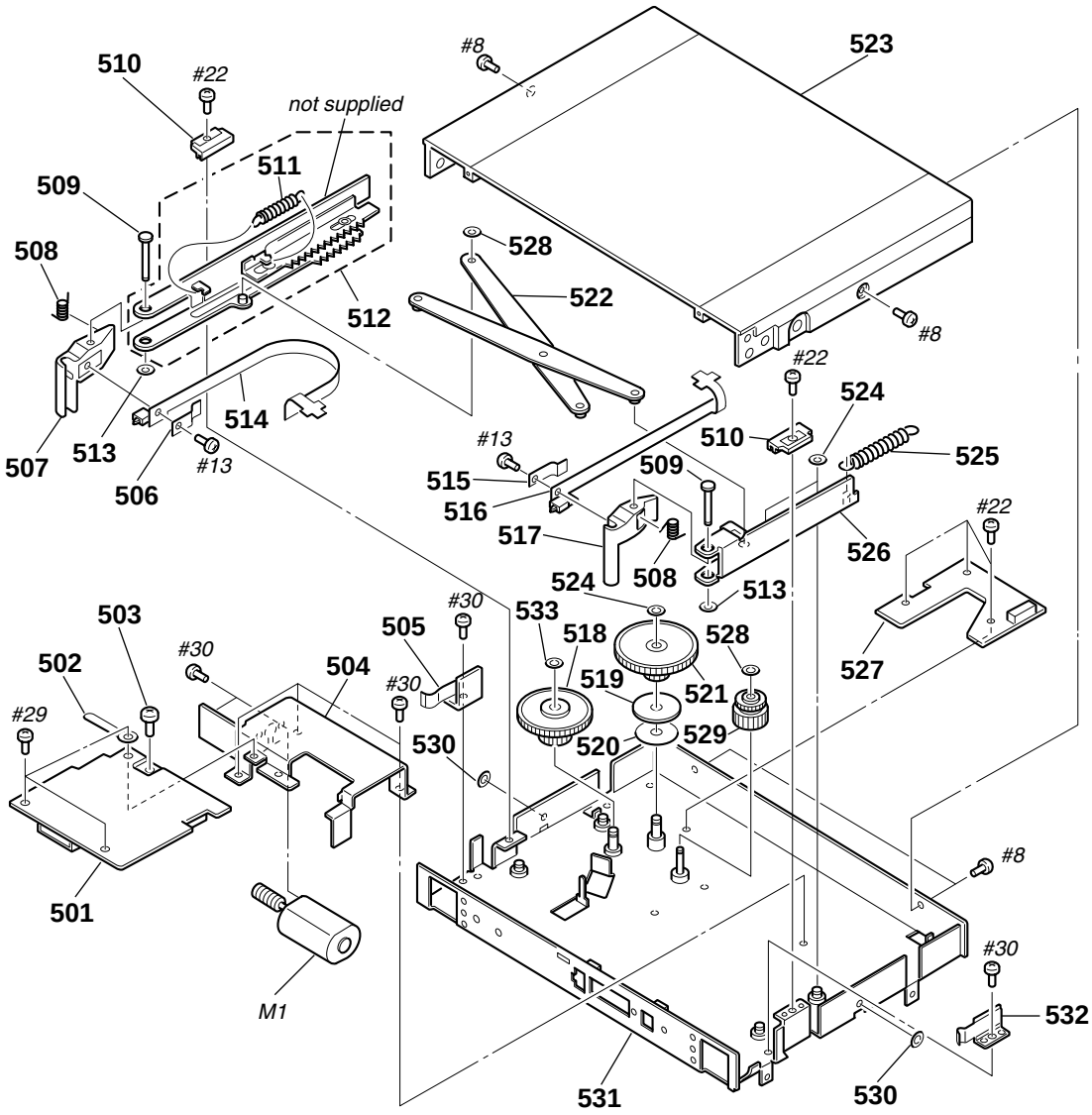
(10) MASTER CONTROL UNIT



Ref. No.	Part No.	Description	Remark
451	X-3372-942-1	PANEL (ORNAMENT) ASSY, FRONT	
452	3-008-496-01	GUIDE (BUTTON RELEASE)	
453	3-008-493-02	WINDOW, REMOTE CONTROL	
454	3-703-502-31	SCREW	
455	3-008-462-01	SPRING, COMPRESSION	
456	3-008-469-01	BUTTON (RELEASE A)	
* 457	A-3309-673-A	DISPLAY BOARD, COMPLETE	
458	4-908-792-31	SCREW (B2)	
459	X-3372-943-1	PANEL (REAR) ASSY	
* 460	3-011-312-01	PLATE (REAR PANEL), GROUND	
461	1-801-564-21	LIQUID CRYSTAL DISPLAY MODULE	
462	3-008-473-01	PLATE (FRONT ORNAMENT)	
463	3-008-479-01	ESCUTCHEON (WINDOW)	
464	1-664-508-11	SWITCH FLEXIBLE BOARD	
465	3-008-492-01	PLATE, TRANSPARENT	
466	3-008-468-01	BUTTON (A)	

Ref. No.	Part No.	Description	Remark
* 467	3-014-062-01	CUSHION (PLATE SUB)	
468	3-008-466-03	PLATE (SUB PANEL A)	
* 469	3-014-042-01	SHEET (RELAY PCB), INSULATING	
470	3-008-488-02	PANEL (SUB A)	
* 471	1-662-633-12	TRANSLATION BOARD	
* 472	3-011-875-01	PLATE (SUB PANEL), GROUND	
473	3-162-358-01	CUSHION	
474	1-777-717-11	CORD (WITH CONNECTOR) (POWER)	
476	3-013-796-01	SHEET	
477	3-013-056-01	SHEET (F.P. REAR CONNECTOR)	
478	3-013-263-01	SHEET (PANEL ATT PC BOARD)	
479	3-831-441-11	CLOTH, UNWEAVED (25X6X0.5)	
480	3-008-475-01	EMBLEM (XES LIGHT GUIDE)	
* 481	3-014-044-01	SPACER (FRONT PANEL)	
* 482	3-014-159-01	SPACER (RELEASE MECH)	
F501	1-532-731-11	FUSE (3A/32V)	

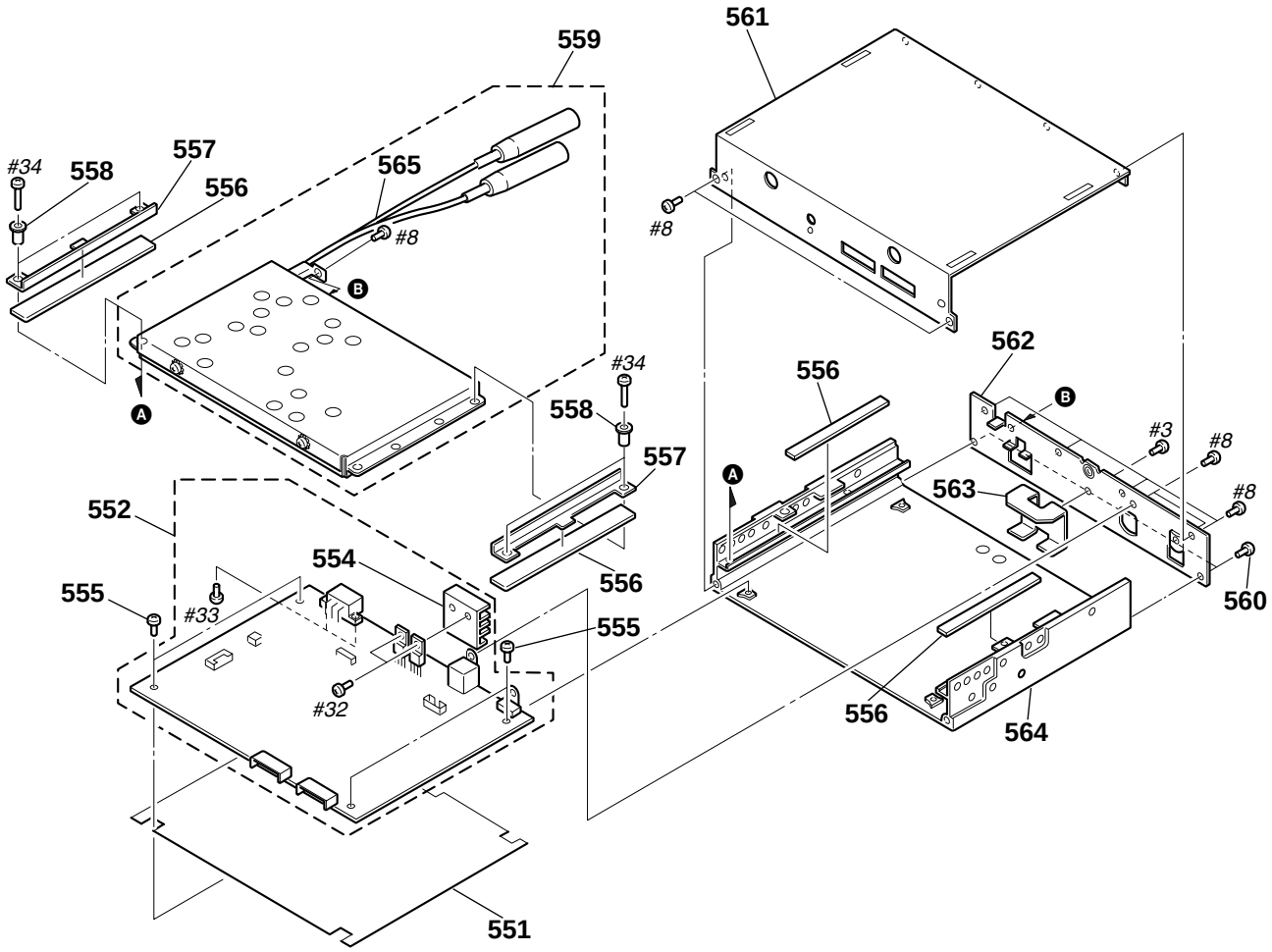
(11) FRONT PANEL DESORPTION MACHINERY



Ref. No.	Part No.	Description	Remark
* 501	1-662-635-12	OPEN/CLOSE 2 BOARD	
* 502	2-277-426-01	CLAMP	
503	3-906-712-01	SCREW (2.6X6) (CU), +PTT	
* 504	3-008-465-01	BRACKET (MOTOR)	
505	X-3372-957-1	SPRING (LOCK L) ASSY	
506	3-008-478-01	COVER (SWITCH L)	
507	3-008-431-01	LEVER (LOCK L)	
508	3-008-457-01	SPRING (LOCK LEVER)	
509	3-008-459-01	SHAFT (LOCK LEVER)	
510	3-008-440-01	GUIDE (LEVER)	
511	3-008-433-01	SPRING (RACK L), TENSION	
512	X-3372-940-1	RACK (L) ASSY	
513	3-701-436-11	WASHER, STOPPER	
514	1-662-967-11	FLEXIBLE 1 BOARD	
515	3-008-477-01	COVER (SWITCH R)	
516	1-662-968-11	FLEXIBLE 2 BOARD	
517	3-008-474-01	LEVER (LOCK R)	

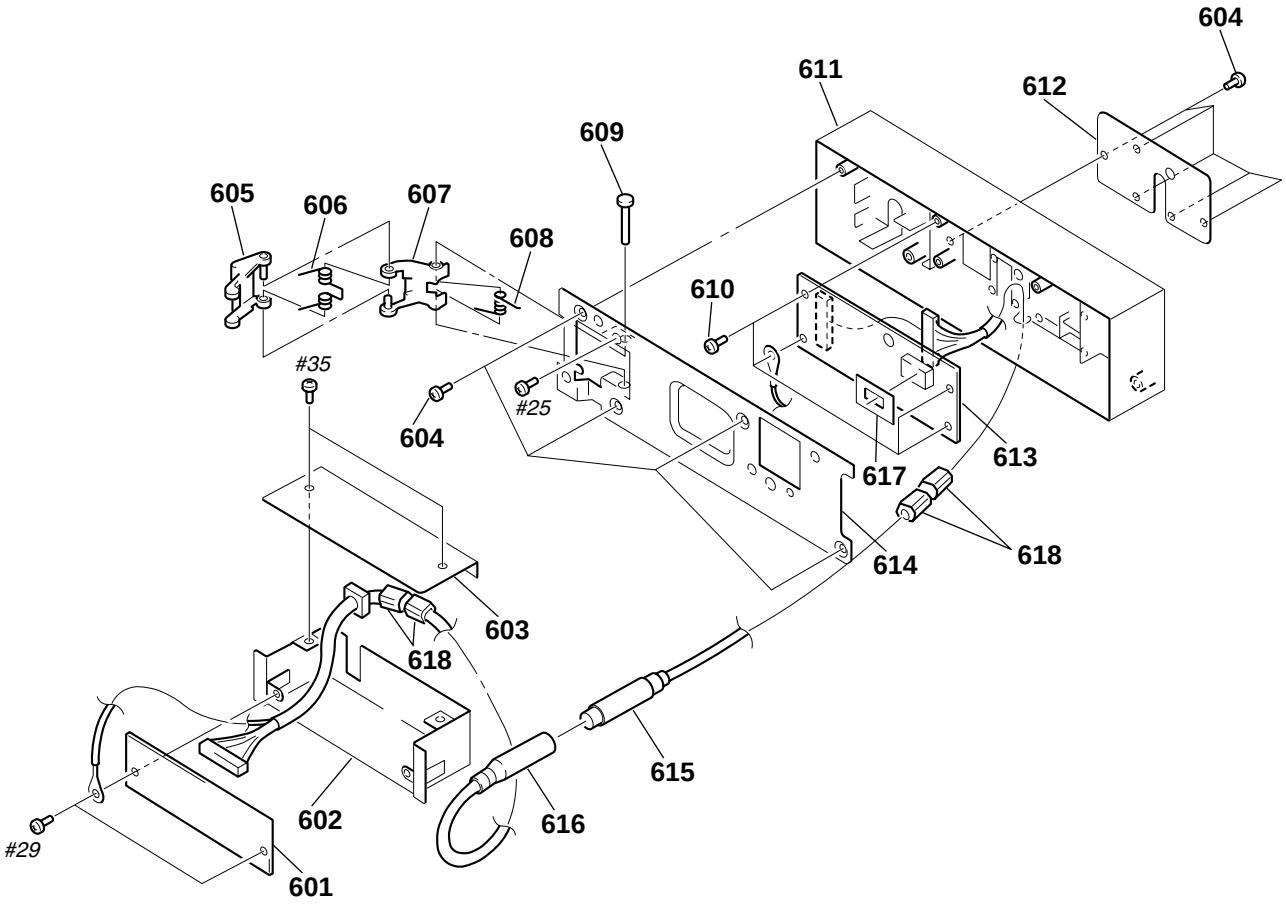
Ref. No.	Part No.	Description	Remark
518	3-008-430-01	GEAR (C)	
519	3-008-480-01	REFLECTOR	
520	3-008-481-01	SEAL, REFLECTION	
521	3-008-429-01	GEAR (B)	
522	X-3372-938-1	LEVER (X) ASSY	
* 523	3-008-460-01	CASE (LOCK UPPER)	
524	3-385-409-01	WASHER, POLYETHYLENE	
525	3-008-461-01	SPRING (RACK R), TENSION	
526	3-008-458-01	RACK (R)	
* 527	1-662-634-12	OPEN/CLOSE 1 BOARD	
528	3-377-719-11	WASHER, POLYETHYLENE	
529	X-3372-939-1	CLUTCH ASSY	
530	4-932-613-01	SPACER	
* 531	X-3372-937-1	CASE (LOCK LOWER) ASSY	
532	X-3372-956-1	SPRING (LOCK R) ASSY	
533	3-325-697-11	WASHER	
M1	A-3301-104-A	MOTOR ASSY (FRONT PANEL DESORPTION)	

(12) TUNER CONTROL SECTION



Ref. No.	Part No.	Description	Remark
* 551	3-008-593-01	SHEET (MAIN BOARD)	
* 552	A-3313-237-A	MAIN BOARD, COMPLETE	
* 554	3-011-594-01	HEAT SINK (MAIN BOARD)	
555	3-912-525-01	SCREW (2.6X4) (CU), +B	
556	3-010-448-01	SPACER (SHIELD CASE)	
* 557	3-010-447-01	RETAINER	
558	3-010-449-01	SPACER	
559	A-3301-206-A	TUNER (U) ASSY (FM/AM TUNER UNIT)	
560	3-912-956-11	SCREW (2.6X6) (CU), +BVTT	
* 561	3-008-455-01	CHASSIS (MAIN TOP)	
* 562	3-008-464-01	CHASSIS (MAIN REAR)	
* 563	3-011-587-01	HEAT SINK (MAIN REAR)	
* 564	3-008-456-01	CHASSIS (MAIN BOTTOM)	
565	1-782-714-11	CORD (WITH CONNECTOR) (ANT) (SUB (FM)/MAIN (FM/AM))	

(13) BRACKET ASS'Y SECTION



Ref. No.	Part No.	Description	Remark
* 601	1-663-878-12	TRANSLATION (HIDE) BOARD	
602	3-010-451-01	CASE (LOWER-ATT)	
603	3-010-450-01	CASE (UPPER-ATT)	
604	3-906-376-01	SCREW (2.6X6)	
605	3-934-757-01	HOLDER (LOCK)	
606	3-934-765-01	SPRING (B)	
607	3-934-756-01	ARM (LOCK)	
608	3-934-758-01	SPRING (A)	
609	3-934-755-01	SHAFT (LOCK)	
610	4-908-618-21	SCREW (+BTP) (2X6)	
611	3-009-517-01	PANEL (ATT)	
612	3-009-518-01	BRACKET (ATT REAR)	
* 613	1-663-877-12	TRANSLATION (CONNECTOR) BOARD	
614	X-3373-153-1	BRACKET (ATT-F) SUB ASSY	
615	1-782-199-11	CORD (WITH CONNECTOR) (DIN)	
616	1-782-200-11	CORD (WITH CONNECTOR) (HIDE)	
617	3-013-263-01	SHEET (PANEL ATT PC BOARD)	
618	1-543-798-11	FILTER, CLAMP (FERRITE CORE)	

SECTION 9
ELECTRICAL PARTS LIST

CHANGER

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL: Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F: nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service.
  Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA. . : µA. . uPA. . : µPA. .
  uPB. . : µPB. . uPC. . : µPC. .
  uPD. . : µPD. .
- CAPACITORS
  uF: µF
- COILS
  uH: µH

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiquens pour la sécurité.
Ne les remplacer que par une pièce portant le neméro spécifié.

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description			Remark
*	A-3309-787-A	CHANGER BOARD, COMPLETE			
		**********			
*	3-008-214-01	HEAT SINK (SUB)			
	3-905-560-01	SCREW (2.6×6) (CU), +PTT			
		< CAPACITOR >			
C301	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C302	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C303	1-104-913-11	TANTAL. CHIP	10uF	20%	16V
C304	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C305	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C306	1-125-701-11	DOUBLE LAYER	0.047F		5.5V
C307	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C308	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C309	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C311	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C401	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C402	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C403	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C404	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C501	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C502	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C504	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C505	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C506	1-163-011-11	CERAMIC CHIP	0.0015uF	10%	50V
C507	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C508	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C509	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C510	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C511	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C512	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C513	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C514	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C515	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C516	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C517	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C520	1-163-231-11	CERAMIC CHIP	15PF	5%	50V
C521	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C522	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C523	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C524	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C525	1-664-004-11	CERAMIC CHIP	0.1uF	10%	25V
C526	1-104-823-11	TANTAL. CHIP	47uF	20%	16V
C530	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C531	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C532	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C601	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C602	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C901	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C902	1-128-426-11	ELECT	47uF	20%	25V
C903	1-128-426-11	ELECT	47uF	20%	25V
C904	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C905	1-128-426-11	ELECT	47uF	20%	25V
C906	1-128-426-11	ELECT	47uF	20%	25V
C907	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C908	1-125-701-11	DOUBLE LAYER	0.047F		5.5V
C909	1-128-422-11	ELECT	100uF	20%	16V
C910	1-128-426-11	ELECT	47uF	20%	25V
C911	1-128-422-11	ELECT	100uF	20%	16V
C912	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C913	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C914	1-128-426-11	ELECT	47uF	20%	25V
C915	1-128-426-11	ELECT	47uF	20%	25V
C916	1-128-426-11	ELECT	47uF	20%	25V
C917	1-128-426-11	ELECT	47uF	20%	25V
C920	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C921	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C922	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C923	1-128-426-11	ELECT	47uF	20%	25V
C924	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C951	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C952	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C953	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C954	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C955	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
		< CONNECTOR >			
* CNJ301	1-764-908-11	CONNECTOR, FFC/FPC (ZIF) 10P			
CNJ501	1-778-819-11	CONNECTOR, FFC/FPC (ZIF) 22P			
CNJ601	1-778-818-11	CONNECTOR, FFC/FPC (ZIF) 13P			
CNP302	1-580-057-11	PIN, CONNECTOR 4P			
CNP901	1-779-122-11	PIN, CONNECTOR 12P			
CNP902	1-779-069-21	PIN, CONNECTOR 6P			
		< DIODE >			
D301	8-719-801-78	DIODE 1SS184			

CHANGER

Ref. No.	Part No.	Description	Remark
D302	8-719-975-40	DIODE RB411D	
D303	8-719-038-48	DIODE 1SS319 (TE85R)	
D901	8-719-801-78	DIODE 1SS184	
D902	8-719-106-08	DIODE RD6.2M-B2	
D903	8-719-801-78	DIODE 1SS184	
D904	8-719-038-48	DIODE 1SS319 (TE85R)	
D905	8-719-105-99	DIODE RD6.2M-B1	
D906	8-719-210-33	DIODE EC10DS2	
D908	8-719-210-33	DIODE EC10DS2	
D951	8-719-975-40	DIODE RB411D	
D952	8-719-106-08	DIODE RD6.2M-B2	
D953	8-719-106-08	DIODE RD6.2M-B2	
D954	8-719-975-40	DIODE RB411D	
D955	8-719-975-40	DIODE RB411D	
D956	8-719-106-08	DIODE RD6.2M-B2	
		< FERRITE BEAD >	
FB501	1-500-239-21	BEAD, FERRITE (CHIP)	
FB502	1-500-239-21	BEAD, FERRITE (CHIP)	
FB503	1-500-239-21	BEAD, FERRITE (CHIP)	
		< IC >	
IC301	8-752-887-16	IC CXP846P48Q-1-004	
IC302	8-759-443-04	IC AT24C32N-10SI-TR	
IC303	8-752-882-50	IC CXP83413-035Q	
IC304	8-752-365-22	IC CXK581000AM-10LL	
IC305	8-759-243-19	IC TC7SU04F	
IC401	8-752-373-27	IC CXD2512AQ	
IC402	8-759-342-14	IC uPD424400GS-60-9JD	
IC403	8-759-342-14	IC uPD424400GS-60-9JD	
IC501	8-752-379-09	IC CXD2540Q	
IC502	8-759-925-90	IC SN74HC74ANS	
IC503	8-759-158-96	IC TC9246F-TP1	
IC504	8-759-439-67	IC TC7W126FU (TE12R)	
IC505	8-759-082-58	IC TC7W08FU	
IC601	8-752-344-48	IC CXD2501Q	
IC901	8-759-231-53	IC TA7805S	
IC902	8-759-231-53	IC TA7805S	
IC903	8-759-443-41	IC RH5VL40AA-T1C	
IC904	8-759-231-53	IC TA7805S	
IC905	8-759-054-12	IC PQ09RA1	
IC951	8-759-284-87	IC MM1284XFFE	
		< TRANSISTOR >	
Q301	8-729-027-31	TRANSISTOR DTA124EKA-T146	
Q302	8-729-027-31	TRANSISTOR DTA124EKA-T146	
Q303	8-729-027-31	TRANSISTOR DTA124EKA-T146	
Q304	8-729-901-00	TRANSISTOR DTC124EK	
Q901	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q902	8-729-027-31	TRANSISTOR DTA124EKA-T146	
Q903	8-729-016-11	TRANSISTOR 2SD1507M	
Q904	8-729-901-00	TRANSISTOR DTC124EK	
Q905	8-729-016-83	TRANSISTOR 2SB1446	
		< RESISTOR/CHIP CONDUCTOR >	
R301	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R304	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R305	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R306	1-216-081-00	METAL CHIP 22K 5% 1/10W	

Ref. No.	Part No.	Description	Remark
R310	1-216-295-00	CONDUCTOR, CHIP (2012)	
R315	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R316	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R319	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R322	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R323	1-216-295-00	CONDUCTOR, CHIP (2012)	
R330	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R331	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R332	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R333	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R334	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R335	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R336	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R337	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R338	1-216-029-00	METAL CHIP 150 5% 1/10W	
R339	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R401	1-216-041-00	METAL CHIP 470 5% 1/10W	
R402	1-216-041-00	METAL CHIP 470 5% 1/10W	
R403	1-216-041-00	METAL CHIP 470 5% 1/10W	
R501	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R502	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R503	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R504	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R505	1-216-121-00	METAL CHIP 1M 5% 1/10W	
R506	1-216-295-00	CONDUCTOR, CHIP (2012)	
R507	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R508	1-216-113-00	METAL CHIP 470K 5% 1/10W	
R509	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R510	1-216-121-00	METAL CHIP 1M 5% 1/10W	
R511	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R512	1-216-041-00	METAL CHIP 470 5% 1/10W	
R513	1-216-041-00	METAL CHIP 470 5% 1/10W	
R514	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R515	1-216-041-00	METAL CHIP 470 5% 1/10W	
R516	1-216-295-00	CONDUCTOR, CHIP (2012)	
R517	1-216-295-00	CONDUCTOR, CHIP (2012)	
R518	1-216-295-00	CONDUCTOR, CHIP (2012)	
R519	1-216-041-00	METAL CHIP 470 5% 1/10W	
R520	1-216-295-00	CONDUCTOR, CHIP (2012)	
R521	1-216-041-00	METAL CHIP 470 5% 1/10W	
R524	1-216-033-00	METAL CHIP 220 5% 1/10W	
R526	1-216-037-00	METAL CHIP 330 5% 1/10W	
R527	1-216-037-00	METAL CHIP 330 5% 1/10W	
R529	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R531	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	
R532	1-216-105-00	METAL CHIP 220K 5% 1/10W	
R533	1-216-025-00	METAL CHIP 100 5% 1/10W	
R534	1-216-105-00	METAL CHIP 220K 5% 1/10W	
R535	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R601	1-216-041-00	METAL CHIP 470 5% 1/10W	
R602	1-216-085-00	METAL CHIP 33K 5% 1/10W	
R603	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R901	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R902	1-216-689-11	METAL CHIP 39K 0.5% 1/10W	
R903	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R904	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R905	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R906	1-216-077-00	METAL CHIP 15K 5% 1/10W	

Ref. No.	Part No.	Description			Remark
R907	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R908	1-216-073-00	METAL CHIP	10K	5%	1/10W
R910	1-216-295-00	CONDUCTOR, CHIP (2012)			
R911	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R912	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R951	1-216-089-00	METAL CHIP	47K	5%	1/10W
		< THERMISTOR >			
TH301	1-810-421-11	THERMISTOR			
TH302	1-810-421-11	THERMISTOR			
		< VIBRATOR >			
X301	1-760-479-11	VIBRATOR, CERAMIC (8MHz)			
X302	1-760-365-11	VIBRATOR, CERAMIC (10MHz)			
X502	1-767-366-21	VIBRATOR, CERAMIC (16.93MHz)			
**********					
*	A-3309-659-A	DAC BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C1010	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C1011	1-124-673-11	ELECT	100uF	20%	10V
C1012	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C1101	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C1102	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C1103	1-104-551-11	FILM CHIP	0.01uF	5%	16V
C1104	1-104-852-11	TANTAL. CHIP	22uF	20%	10V
C1105	1-104-852-11	TANTAL. CHIP	22uF	20%	10V
C1106	1-104-551-11	FILM CHIP	0.01uF	5%	16V
C1107	1-104-551-11	FILM CHIP	0.01uF	5%	16V
C1108	1-104-852-11	TANTAL. CHIP	22uF	20%	10V
C1109	1-124-710-11	ELECT	100uF	20%	35V
C1110	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V
C1111	1-104-852-11	TANTAL. CHIP	22uF	20%	10V
C1112	1-104-852-11	TANTAL. CHIP	22uF	20%	10V
C1113	1-104-551-11	FILM CHIP	0.01uF	5%	16V
C1114	1-104-551-11	FILM CHIP	0.01uF	5%	16V
C1115	1-104-852-11	TANTAL. CHIP	22uF	20%	10V
C1116	1-124-710-11	ELECT	100uF	20%	35V
C1117	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V
C1118	1-136-165-00	FILM	0.1uF	5%	50V
C1119	1-136-165-00	FILM	0.1uF	5%	50V
C1120	1-136-230-00	FILM	0.0022uF	5%	100V
C1121	1-136-250-11	FILM	0.001uF	5%	100V
C1122	1-136-165-00	FILM	0.1uF	5%	50V
C1123	1-136-165-00	FILM	0.1uF	5%	50V
C1124	1-136-230-00	FILM	0.0022uF	5%	100V
C1125	1-136-250-11	FILM	0.001uF	5%	100V
C1126	1-136-165-00	FILM	0.1uF	5%	50V
C1127	1-136-165-00	FILM	0.1uF	5%	50V
C1130	1-136-165-00	FILM	0.1uF	5%	50V
C1131	1-136-165-00	FILM	0.1uF	5%	50V
C1132	1-124-910-11	ELECT	47uF	20%	50V
C1133	1-124-910-11	ELECT	47uF	20%	50V
C1134	1-124-721-11	ELECT	10uF	20%	50V
C1201	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C1202	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C1203	1-104-551-11	FILM CHIP	0.01uF	5%	16V

Ref. No.	Part No.	Description			Remark
C1204	1-104-852-11	TANTAL. CHIP	22uF	20%	10V
C1205	1-104-852-11	TANTAL. CHIP	22uF	20%	10V
C1206	1-104-551-11	FILM CHIP	0.01uF	5%	16V
C1207	1-104-551-11	FILM CHIP	0.01uF	5%	16V
C1208	1-104-852-11	TANTAL. CHIP	22uF	20%	10V
C1209	1-124-710-11	ELECT	100uF	20%	35V
C1210	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V
C1211	1-104-852-11	TANTAL. CHIP	22uF	20%	10V
C1212	1-104-852-11	TANTAL. CHIP	22uF	20%	10V
C1213	1-104-551-11	FILM CHIP	0.01uF	5%	16V
C1214	1-104-551-11	FILM CHIP	0.01uF	5%	16V
C1215	1-104-852-11	TANTAL. CHIP	22uF	20%	10V
C1216	1-124-710-11	ELECT	100uF	20%	35V
C1217	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V
C1218	1-136-165-00	FILM	0.1uF	5%	50V
C1219	1-136-165-00	FILM	0.1uF	5%	50V
C1220	1-136-230-00	FILM	0.0022uF	5%	100V
C1221	1-136-250-11	FILM	0.001uF	5%	100V
C1222	1-136-165-00	FILM	0.1uF	5%	50V
C1223	1-136-165-00	FILM	0.1uF	5%	50V
C1224	1-136-230-00	FILM	0.0022uF	5%	100V
C1225	1-136-250-11	FILM	0.001uF	5%	100V
C1226	1-136-165-00	FILM	0.1uF	5%	50V
C1227	1-136-165-00	FILM	0.1uF	5%	50V
C1230	1-136-165-00	FILM	0.1uF	5%	50V
C1231	1-136-165-00	FILM	0.1uF	5%	50V
C1232	1-124-910-11	ELECT	47uF	20%	50V
C1233	1-124-910-11	ELECT	47uF	20%	50V
C1234	1-124-721-11	ELECT	10uF	20%	50V
C1301	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C1302	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C1303	1-104-551-11	FILM CHIP	0.01uF	5%	16V
C1304	1-104-852-11	TANTAL. CHIP	22uF	20%	10V
C1305	1-104-852-11	TANTAL. CHIP	22uF	20%	10V
C1306	1-104-551-11	FILM CHIP	0.01uF	5%	16V
C1307	1-104-551-11	FILM CHIP	0.01uF	5%	16V
C1308	1-104-852-11	TANTAL. CHIP	22uF	20%	10V
C1309	1-124-710-11	ELECT	100uF	20%	35V
C1310	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V
C1311	1-104-852-11	TANTAL. CHIP	22uF	20%	10V
C1312	1-104-852-11	TANTAL. CHIP	22uF	20%	10V
C1313	1-104-551-11	FILM CHIP	0.01uF	5%	16V
C1314	1-104-551-11	FILM CHIP	0.01uF	5%	16V
C1315	1-104-852-11	TANTAL. CHIP	22uF	20%	10V
C1316	1-124-710-11	ELECT	100uF	20%	35V
C1317	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V
C1318	1-136-165-00	FILM	0.1uF	5%	50V
C1319	1-136-165-00	FILM	0.1uF	5%	50V
C1320	1-136-230-00	FILM	0.0022uF	5%	100V
C1321	1-136-250-11	FILM	0.001uF	5%	100V
C1322	1-136-165-00	FILM	0.1uF	5%	50V
C1323	1-136-165-00	FILM	0.1uF	5%	50V
C1324	1-136-230-00	FILM	0.0022uF	5%	100V
C1325	1-136-250-11	FILM	0.001uF	5%	100V
C1326	1-136-165-00	FILM	0.1uF	5%	50V
C1327	1-136-165-00	FILM	0.1uF	5%	50V
C1330	1-136-165-00	FILM	0.1uF	5%	50V
C1331	1-136-165-00	FILM	0.1uF	5%	50V

DAC

Ref. No.	Part No.	Description			Remark
C1332	1-124-910-11	ELECT	47uF	20%	50V
C1333	1-124-910-11	ELECT	47uF	20%	50V
C1334	1-124-721-11	ELECT	10uF	20%	50V
C1401	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C1402	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C1403	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C1404	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C1405	1-107-206-00	MICA	15PF	5%	500V
C1406	1-107-206-00	MICA	15PF	5%	500V
C1501	1-124-699-11	ELECT	220uF	20%	25V
C1502	1-136-165-00	FILM	0.1uF	5%	50V
C1503	1-124-710-11	ELECT	100uF	20%	35V
C1504	1-124-699-11	ELECT	220uF	20%	25V
C1505	1-136-165-00	FILM	0.1uF	5%	50V
C1506	1-124-710-11	ELECT	100uF	20%	35V
C1507	1-124-699-11	ELECT	220uF	20%	25V
C1508	1-136-165-00	FILM	0.1uF	5%	50V
C1509	1-124-710-11	ELECT	100uF	20%	35V
C1510	1-124-699-11	ELECT	220uF	20%	25V
C1511	1-136-165-00	FILM	0.1uF	5%	50V
C1512	1-124-710-11	ELECT	100uF	20%	35V
C1601	1-124-910-11	ELECT	47uF	20%	50V
C1602	1-124-910-11	ELECT	47uF	20%	50V
C1603	1-124-910-11	ELECT	47uF	20%	50V
C1604	1-136-808-11	FILM	100PF	5%	100V
C1605	1-136-808-11	FILM	100PF	5%	100V
C1606	1-136-165-00	FILM	0.1uF	5%	50V
C1607	1-136-165-00	FILM	0.1uF	5%	50V
C1608	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C1609	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C1610	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C1611	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C1612	1-136-820-11	FILM	0.01uF	5%	100V
C1613	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C1614	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C1615	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C1616	1-136-165-00	FILM	0.1uF	5%	50V
C1617	1-136-165-00	FILM	0.1uF	5%	50V
C1618	1-136-820-11	FILM	0.01uF	5%	100V
C1619	1-124-673-11	ELECT	100uF	20%	10V
C1620	1-136-165-00	FILM	0.1uF	5%	50V
C1621	1-124-673-11	ELECT	100uF	20%	10V
C1622	1-163-231-11	CERAMIC CHIP	15PF	5%	50V
C1623	1-163-231-11	CERAMIC CHIP	15PF	5%	50V
C1624	1-163-231-11	CERAMIC CHIP	15PF	5%	50V
C1625	1-163-231-11	CERAMIC CHIP	15PF	5%	50V
C1626	1-136-165-00	FILM	0.1uF	5%	50V
C1627	1-136-165-00	FILM	0.1uF	5%	50V
C1628	1-136-165-00	FILM	0.1uF	5%	50V
C1629	1-136-165-00	FILM	0.1uF	5%	50V
C1630	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C1631	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C1632	1-136-165-00	FILM	0.1uF	5%	50V
C1633	1-136-165-00	FILM	0.1uF	5%	50V
C1634	1-136-165-00	FILM	0.1uF	5%	50V
C1635	1-136-165-00	FILM	0.1uF	5%	50V
C1636	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C1637	1-104-551-11	FILM	0.01uF	5%	16V
C1638	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C1639	1-104-551-11	FILM	0.01uF	5%	16V
C1640	1-164-232-11	CERAMIC CHIP	0.01uF		50V

< CONNECTOR >

Ref. No.	Part No.	Description
CN1001	1-779-119-11	PIN, CONNECTOR 5P
CN1010	1-778-939-11	CONNECTOR, FFC/FPC (ZIF) 30P
CN1011	1-506-945-11	PIN, CONNECTOR 3P
CN1501	1-506-947-11	PIN, CONNECTOR 6P
* CN1601	1-766-324-11	CONNECTOR, FFC/FPC (ZIF) 8P
CN1602	1-779-120-11	PIN, CONNECTOR 8P

< DIODE >

Ref. No.	Part No.	Description
D1101	8-719-800-76	DIODE 1SS226
D1102	8-719-800-76	DIODE 1SS226
D1103	8-719-800-76	DIODE 1SS226
D1104	8-719-800-76	DIODE 1SS226
D1105	8-719-800-76	DIODE 1SS226
D1106	8-719-800-76	DIODE 1SS226
D1107	8-719-052-12	DIODE 1SS376TE-17
D1201	8-719-800-76	DIODE 1SS226
D1202	8-719-800-76	DIODE 1SS226
D1203	8-719-800-76	DIODE 1SS226
D1204	8-719-800-76	DIODE 1SS226
D1205	8-719-800-76	DIODE 1SS226
D1206	8-719-800-76	DIODE 1SS226
D1207	8-719-052-12	DIODE 1SS376TE-17
D1301	8-719-800-76	DIODE 1SS226
D1302	8-719-800-76	DIODE 1SS226
D1303	8-719-800-76	DIODE 1SS226
D1304	8-719-800-76	DIODE 1SS226
D1305	8-719-800-76	DIODE 1SS226
D1306	8-719-800-76	DIODE 1SS226
D1307	8-719-052-12	DIODE 1SS376TE-17
D1601	8-719-404-49	DIODE MA111
D1602	8-719-404-49	DIODE MA111
D1603	8-719-404-49	DIODE MA111
D1604	8-719-404-49	DIODE MA111
D1605	8-719-404-49	DIODE MA111
D1606	8-719-404-49	DIODE MA111
D1607	8-719-404-49	DIODE MA111
D1608	8-719-404-49	DIODE MA111
D1609	8-719-052-12	DIODE 1SS376TE-17
D1610	8-719-052-12	DIODE 1SS376TE-17
D1611	8-719-052-12	DIODE 1SS376TE-17
D1612	8-719-422-64	DIODE MA8062-M
D1613	8-719-422-64	DIODE MA8062-M
D1614	8-719-422-64	DIODE MA8062-M
D1615	8-719-422-64	DIODE MA8062-M

< FERRITE BEAD >

Ref. No.	Part No.	Description
FB1101	1-414-235-11	INDUCTOR, FERRITE BEAD
FB1201	1-414-235-11	INDUCTOR, FERRITE BEAD
FB1301	1-414-235-11	INDUCTOR, FERRITE BEAD
FB1401	1-414-235-11	INDUCTOR, FERRITE BEAD
FB1402	1-414-235-11	INDUCTOR, FERRITE BEAD
FB1403	1-414-235-11	INDUCTOR, FERRITE BEAD
FB1404	1-414-235-11	INDUCTOR, FERRITE BEAD
FB1601	1-414-235-11	INDUCTOR, FERRITE BEAD

Ref. No.	Part No.	Description	Remark
FB1602	1-414-235-11	INDUCTOR, FERRITE BEAD	
FB1603	1-414-235-11	INDUCTOR, FERRITE BEAD	
FB1604	1-414-235-11	INDUCTOR, FERRITE BEAD	
		< IC >	
IC1010	8-759-186-77	IC TC74VHC541F	
IC1101	8-759-169-03	IC SM5843AS1-ET	
IC1102	8-759-425-06	IC PCM1702U-K-T1	
IC1103	8-759-425-06	IC PCM1702U-K-T1	
IC1104	8-759-443-33	IC OPA2132PA	
IC1105	8-759-443-33	IC OPA2132PA	
IC1106	8-759-443-35	IC CS3310-KP	
IC1107	8-759-900-72	IC NE5532P	
IC1201	8-759-169-03	IC SM5843AS1-ET	
IC1202	8-759-425-06	IC PCM1702U-K-T1	
IC1203	8-759-425-06	IC PCM1702U-K-T1	
IC1204	8-759-443-33	IC OPA2132PA	
IC1205	8-759-443-33	IC OPA2132PA	
IC1206	8-759-443-35	IC CS3310-KP	
IC1207	8-759-900-72	IC NE5532P	
IC1301	8-759-169-03	IC SM5843AS1-ET	
IC1302	8-759-425-06	IC PCM1702U-K-T1	
IC1303	8-759-425-06	IC PCM1702U-K-T1	
IC1304	8-759-443-33	IC OPA2132PA	
IC1305	8-759-443-33	IC OPA2132PA	
IC1306	8-759-443-35	IC CS3310-KP	
IC1307	8-759-900-72	IC NE5532P	
IC1401	8-759-186-44	IC TC74VHC125F (EL)	
IC1402	8-759-186-14	IC TC74VHC393F (EL)	
IC1403	8-759-081-46	IC TC74VHCU04F	
IC1501	8-759-231-59	IC TA7815S	
IC1502	8-759-448-79	IC TA79015P	
IC1503	8-759-231-53	IC TA7805S	
IC1504	8-759-443-31	IC TA79005P	
IC1601	8-759-443-33	IC OPA2132PA	
IC1602	8-759-443-33	IC OPA2132PA	
IC1603	8-759-900-72	IC NE5532P	
IC1604	8-759-900-72	IC NE5532P	
IC1605	8-759-900-72	IC NE5532P	
IC1606	8-759-083-94	IC TC7W74FU	
IC1607	8-759-336-17	IC AK5390-VS	
		< COIL >	
L1401	1-412-060-11	INDUCTOR CHIP 22uH	
		< TRANSISTOR >	
Q1001	8-729-421-22	TRANSISTOR UN2211	
Q1601	8-729-421-22	TRANSISTOR UN2211	
Q1602	8-729-421-22	TRANSISTOR UN2211	
		< RESISTOR >	
R1010	1-216-025-00	METAL CHIP 100 5% 1/10W	
R1011	1-216-033-00	METAL CHIP 220 5% 1/10W	
R1012	1-216-033-00	METAL CHIP 220 5% 1/10W	
R1013	1-216-033-00	METAL CHIP 220 5% 1/10W	
R1014	1-216-017-00	METAL CHIP 47 5% 1/10W	
R1015	1-216-025-00	METAL CHIP 100 5% 1/10W	
R1101	1-216-017-00	METAL CHIP 47 5% 1/10W	
R1102	1-216-025-00	METAL CHIP 100 5% 1/10W	
R1103	1-216-017-00	METAL CHIP 47 5% 1/10W	
R1104	1-216-017-00	METAL CHIP 47 5% 1/10W	
R1105	1-260-001-11	CARBON MELF 2.7K 2% 1/8W	
R1106	1-259-995-11	CARBON MELF 1K 2% 1/8W	
R1107	1-259-998-11	CARBON MELF 1.8K 2% 1/8W	
R1108	1-259-998-11	CARBON MELF 1.8K 2% 1/8W	
R1109	1-260-001-11	CARBON MELF 2.7K 2% 1/8W	
R1110	1-259-995-11	CARBON MELF 1K 2% 1/8W	
R1111	1-259-998-11	CARBON MELF 1.8K 2% 1/8W	
R1112	1-259-998-11	CARBON MELF 1.8K 2% 1/8W	
R1113	1-260-009-11	CARBON MELF 12K 2% 1/8W	
R1114	1-260-004-11	CARBON MELF 4.7K 2% 1/8W	
R1115	1-260-009-11	CARBON MELF 12K 2% 1/8W	
R1116	1-260-004-11	CARBON MELF 4.7K 2% 1/8W	
R1117	1-259-983-11	CARBON MELF 100 2% 1/8W	
R1118	1-259-983-11	CARBON MELF 100 2% 1/8W	
R1119	1-260-016-11	CARBON MELF 47K 2% 1/8W	
R1120	1-260-016-11	CARBON MELF 47K 2% 1/8W	
R1121	1-259-971-11	CARBON MELF 10 2% 1/8W	
R1122	1-260-005-11	CARBON MELF 5.6K 2% 1/8W	
R1123	1-260-005-11	CARBON MELF 5.6K 2% 1/8W	
R1124	1-260-005-11	CARBON MELF 5.6K 2% 1/8W	
R1125	1-260-005-11	CARBON MELF 5.6K 2% 1/8W	
R1126	1-216-001-00	METAL CHIP 10 5% 1/10W	
R1127	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R1201	1-216-017-00	METAL CHIP 47 5% 1/10W	
R1202	1-216-025-00	METAL CHIP 100 5% 1/10W	
R1203	1-216-017-00	METAL CHIP 47 5% 1/10W	
R1204	1-216-017-00	METAL CHIP 47 5% 1/10W	
R1205	1-260-001-11	CARBON MELF 2.7K 2% 1/8W	
R1206	1-259-995-11	CARBON MELF 1K 2% 1/8W	
R1207	1-259-998-11	CARBON MELF 1.8K 2% 1/8W	
R1208	1-259-998-11	CARBON MELF 1.8K 2% 1/8W	
R1209	1-260-001-11	CARBON MELF 2.7K 2% 1/8W	
R1210	1-259-995-11	CARBON MELF 1K 2% 1/8W	
R1211	1-259-998-11	CARBON MELF 1.8K 2% 1/8W	
R1212	1-259-998-11	CARBON MELF 1.8K 2% 1/8W	
R1213	1-260-009-11	CARBON MELF 12K 2% 1/8W	
R1214	1-260-004-11	CARBON MELF 4.7K 2% 1/8W	
R1215	1-260-009-11	CARBON MELF 12K 2% 1/8W	
R1216	1-260-004-11	CARBON MELF 4.7K 2% 1/8W	
R1217	1-259-983-11	CARBON MELF 100 2% 1/8W	
R1218	1-259-983-11	CARBON MELF 100 2% 1/8W	
R1219	1-260-016-11	CARBON MELF 47K 2% 1/8W	
R1220	1-260-016-11	CARBON MELF 47K 2% 1/8W	
R1221	1-259-971-11	CARBON MELF 10 2% 1/8W	
R1222	1-260-005-11	CARBON MELF 5.6K 2% 1/8W	
R1223	1-260-005-11	CARBON MELF 5.6K 2% 1/8W	
R1224	1-260-005-11	CARBON MELF 5.6K 2% 1/8W	
R1225	1-260-005-11	CARBON MELF 5.6K 2% 1/8W	
R1226	1-216-001-00	METAL CHIP 10 5% 1/10W	
R1227	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R1301	1-216-017-00	METAL CHIP 47 5% 1/10W	
R1302	1-216-025-00	METAL CHIP 100 5% 1/10W	
R1303	1-216-017-00	METAL CHIP 47 5% 1/10W	
R1304	1-216-017-00	METAL CHIP 47 5% 1/10W	

DAC **DISPLAY**

Ref. No.	Part No.	Description			Remark
R1305	1-260-001-11	CARBON MELF	2.7K	2%	1/8W
R1306	1-259-995-11	CARBON MELF	1K	2%	1/8W
R1307	1-259-998-11	CARBON MELF	1.8K	2%	1/8W
R1308	1-259-998-11	CARBON MELF	1.8K	2%	1/8W
R1309	1-260-001-11	CARBON MELF	2.7K	2%	1/8W
R1310	1-259-995-11	CARBON MELF	1K	2%	1/8W
R1311	1-259-998-11	CARBON MELF	1.8K	2%	1/8W
R1312	1-259-998-11	CARBON MELF	1.8K	2%	1/8W
R1313	1-260-009-11	CARBON MELF	12K	2%	1/8W
R1314	1-260-004-11	CARBON MELF	4.7K	2%	1/8W
R1315	1-260-009-11	CARBON MELF	12K	2%	1/8W
R1316	1-260-004-11	CARBON MELF	4.7K	2%	1/8W
R1317	1-259-983-11	CARBON MELF	100	2%	1/8W
R1318	1-259-983-11	CARBON MELF	100	2%	1/8W
R1319	1-260-016-11	CARBON MELF	47K	2%	1/8W
R1320	1-260-016-11	CARBON MELF	47K	2%	1/8W
R1321	1-259-971-11	CARBON MELF	10	2%	1/8W
R1322	1-260-005-11	CARBON MELF	5.6K	2%	1/8W
R1323	1-260-005-11	CARBON MELF	5.6K	2%	1/8W
R1324	1-260-005-11	CARBON MELF	5.6K	2%	1/8W
R1325	1-260-005-11	CARBON MELF	5.6K	2%	1/8W
R1326	1-216-001-00	METAL CHIP	10	5%	1/10W
R1327	1-216-073-00	METAL CHIP	10K	5%	1/10W
R1401	1-216-025-00	METAL CHIP	100	5%	1/10W
R1402	1-260-032-11	CARBON MELF	1M	2%	1/8W
R1403	1-259-991-11	CARBON MELF	470	2%	1/8W
R1404	1-216-001-00	METAL CHIP	10	5%	1/10W
R1601	1-260-016-11	CARBON MELF	47K	2%	1/8W
R1602	1-260-016-11	CARBON MELF	47K	2%	1/8W
R1605	1-260-020-11	CARBON MELF	100K	2%	1/8W
R1606	1-216-222-00	METAL CHIP	10K	0.5%	1/8W
R1607	1-208-810-11	METAL CHIP	15K	0.5%	1/8W
R1608	1-208-810-11	METAL CHIP	15K	0.5%	1/8W
R1609	1-216-222-00	METAL CHIP	10K	0.5%	1/8W
R1610	1-216-222-00	METAL CHIP	10K	0.5%	1/8W
R1611	1-208-810-11	METAL CHIP	15K	0.5%	1/8W
R1612	1-208-810-11	METAL CHIP	15K	0.5%	1/8W
R1613	1-216-222-00	METAL CHIP	10K	0.5%	1/8W
R1614	1-260-004-11	CARBON MELF	4.7K	2%	1/8W
R1615	1-260-004-11	CARBON MELF	4.7K	2%	1/8W
R1616	1-260-004-11	CARBON MELF	4.7K	2%	1/8W
R1617	1-260-004-11	CARBON MELF	4.7K	2%	1/8W
R1618	1-260-004-11	CARBON MELF	4.7K	2%	1/8W
R1620	1-260-004-11	CARBON MELF	4.7K	2%	1/8W
R1622	1-260-004-11	CARBON MELF	4.7K	2%	1/8W
R1624	1-260-004-11	CARBON MELF	4.7K	2%	1/8W
R1626	1-216-001-00	METAL CHIP	10	5%	1/10W
R1627	1-259-983-11	CARBON MELF	100	2%	1/8W
R1628	1-259-983-11	CARBON MELF	100	2%	1/8W
R1629	1-259-983-11	CARBON MELF	100	2%	1/8W
R1630	1-259-983-11	CARBON MELF	100	2%	1/8W
R1631	1-216-049-00	METAL CHIP	1K	5%	1/10W
R1632	1-259-995-11	CARBON MELF	1K	2%	1/8W
R1633	1-259-995-11	CARBON MELF	1K	2%	1/8W
		< RELAY >			
RY1101	1-755-188-11	RELAY			
RY1201	1-755-188-11	RELAY			
RY1301	1-755-188-11	RELAY			
RY1601	1-755-188-11	RELAY			
RY1602	1-755-188-11	RELAY			
RY1603	1-755-188-11	RELAY			
		< VIBRATOR >			
X1401	1-767-338-11	VIBRATOR, CRYSTAL (11.2896MHz)			
**********					
*	A-3309-673-A	DISPLAY BOARD, COMPLETE			
		**********			
		< BUZZER >			
BZ811	1-505-263-21	BUZZER			
		< CAPACITOR >			
C801	1-110-454-11	SOLID CHIP	10uF	20%	16V
C802	1-110-454-11	SOLID CHIP	10uF	20%	16V
C803	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C804	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C805	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C806	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C808	1-126-613-11	ELECT	10uF	20%	50V
C809	1-126-613-11	ELECT	10uF	20%	50V
C810	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C901	1-110-449-11	SOLID CHIP	47uF	20%	6.3V
C902	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C903	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C904	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C905	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C906	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C921	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C931	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C932	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C933	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C941	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C942	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C943	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C944	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C945	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C951	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C980	1-113-500-11	TANTAL. CHIP	100uF	20%	10V
C981	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C982	1-113-987-11	TANTAL. CHIP	4.7uF	20%	25V
		< CONNECTOR >			
CN901	1-774-945-11	PLUG, CONNECTOR 14P			
* CN902	1-750-161-21	CONNECTOR, FPC 30P			
* CN903	1-750-248-21	CONNECTOR, FPC 5P			
		< DIODE >			
D801	8-719-048-98	DIODE RB160L-40TE25			
D802	8-719-018-10	DIODE MA8300-TX			
D811	8-719-052-12	DIODE 1SS376TE-17			
D941	8-719-422-64	DIODE MA8062-M			
D942	8-719-422-64	DIODE MA8062-M			
D943	8-719-422-64	DIODE MA8062-M			
D944	8-719-422-64	DIODE MA8062-M			

Ref. No.	Part No.	Description	Remark
D945	8-719-422-64	DIODE MA8062-M	
		< FERRITE BEAD >	
FB801	1-414-233-21	INDUCTOR, FERRITE BEAD	
FB901	1-414-234-11	INDUCTOR, FERRITE BEAD	
FB931	1-414-234-11	INDUCTOR, FERRITE BEAD	
FB932	1-414-234-11	INDUCTOR, FERRITE BEAD	
FB941	1-414-234-11	INDUCTOR, FERRITE BEAD	
		< IC >	
IC801	8-759-521-35	IC TL5001CD	
IC901	8-759-443-23	IC HD6473048-DISP01	
IC921	8-759-079-52	IC TC74VHC08FS (EL)	
IC931	8-759-486-71	IC MBM29F800-DISPU	
IC932	8-752-376-15	IC CXK516100TM-70LL-TL	
IC941	8-759-079-56	IC TC74VHC14FS (EL)	
IC942	8-759-439-67	IC TC7W126FU (TE12R)	
IC951	8-759-079-60	IC TC74VHC32FS (EL)	
		< COIL >	
L801	1-410-381-11	INDUCTOR CHIP 10uH	
L802	1-414-449-11	INDUCTOR 100uH	
L901	1-410-381-11	INDUCTOR CHIP 10uH	
		< TRANSISTOR >	
Q801	8-729-023-85	FET 2SJ168	
Q802	8-729-011-57	FET 2SK1880S-TL	
Q803	8-729-021-94	FET 2SK1657-T1B	
Q811	8-729-900-53	TRANSISTOR DTC114EK	
Q901	8-729-900-53	TRANSISTOR DTC114EK	
		< RESISTOR/CHIP CONDUCTOR >	
R202	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R701	1-216-832-11	METAL CHIP 8.2K 5% 1/16W	
R801	1-216-091-00	METAL CHIP 56K 5% 1/10W	
R802	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R803	1-216-295-00	CONDUCTOR, CHIP (2012)	
R804	1-216-037-00	METAL CHIP 330 5% 1/10W	
R805	1-216-691-11	METAL CHIP 47K 0.5% 1/10W	
R806	1-216-659-11	METAL CHIP 2.2K 0.5% 1/10W	
R807	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	
R808	1-216-680-11	METAL CHIP 16K 0.5% 1/10W	
R809	1-216-009-00	METAL CHIP 22 5% 1/10W	
R811	1-216-009-00	METAL CHIP 22 5% 1/10W	
R812	1-216-009-00	METAL CHIP 22 5% 1/10W	
R821	1-216-009-00	METAL CHIP 22 5% 1/10W	
R830	1-216-817-11	METAL CHIP 470 5% 1/16W	
R901	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	
R902	1-216-864-11	METAL CHIP 0 5% 1/16W	
R903	1-216-864-11	METAL CHIP 0 5% 1/16W	
R904	1-216-864-11	METAL CHIP 0 5% 1/16W	
R905	1-216-864-11	METAL CHIP 0 5% 1/16W	
R906	1-216-809-11	METAL CHIP 100 5% 1/16W	
R907	1-216-809-11	METAL CHIP 100 5% 1/16W	
R908	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	
R910	1-216-809-11	METAL CHIP 100 5% 1/16W	
R911	1-216-809-11	METAL CHIP 100 5% 1/16W	
R912	1-216-809-11	METAL CHIP 100 5% 1/16W	
R914	1-216-832-11	METAL CHIP 8.2K 5% 1/16W	
R915	1-216-809-11	METAL CHIP 100 5% 1/16W	
R916	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R917	1-216-809-11	METAL CHIP 100 5% 1/16W	
R918	1-216-817-11	METAL CHIP 470 5% 1/16W	
R919	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R920	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R921	1-216-809-11	METAL CHIP 100 5% 1/16W	
R922	1-216-809-11	METAL CHIP 100 5% 1/16W	
R923	1-216-809-11	METAL CHIP 100 5% 1/16W	
R931	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R932	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R933	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R941	1-216-809-11	METAL CHIP 100 5% 1/16W	
R942	1-216-809-11	METAL CHIP 100 5% 1/16W	
R943	1-216-809-11	METAL CHIP 100 5% 1/16W	
R944	1-216-809-11	METAL CHIP 100 5% 1/16W	
R947	1-216-809-11	METAL CHIP 100 5% 1/16W	
R951	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R952	1-216-809-11	METAL CHIP 100 5% 1/16W	
R953	1-216-809-11	METAL CHIP 100 5% 1/16W	
R980	1-216-841-11	METAL CHIP 47K 5% 1/16W	
R981	1-216-819-11	METAL CHIP 680 5% 1/16W	
		< NETWORK RESISTOR >	
RB901	1-233-576-11	RES, CHIP NETWORK 100×4	
RB902	1-233-576-11	RES, CHIP NETWORK 100×4	
RB903	1-216-182-00	RES, CHIP NETWORK 220×4 (3216)	
RB904	1-216-182-00	RES, CHIP NETWORK 220×4 (3216)	
RB905	1-233-576-11	RES, CHIP NETWORK 100×4	
RB906	1-233-576-11	RES, CHIP NETWORK 100×4	
RB907	1-233-576-11	RES, CHIP NETWORK 100×4	
RB908	1-233-576-11	RES, CHIP NETWORK 100×4	
RB909	1-233-576-11	RES, CHIP NETWORK 100×4	
RB910	1-233-576-11	RES, CHIP NETWORK 100×4	
RB931	1-216-182-00	RES, CHIP NETWORK 220×4 (3216)	
RB932	1-233-576-11	RES, CHIP NETWORK 100×4	
RB933	1-216-182-00	RES, CHIP NETWORK 220×4 (3216)	
RB934	1-233-576-11	RES, CHIP NETWORK 100×4	
RB935	1-233-576-11	RES, CHIP NETWORK 100×4	
RB936	1-233-576-11	RES, CHIP NETWORK 100×4	
RB937	1-233-576-11	RES, CHIP NETWORK 100×4	
RB938	1-233-576-11	RES, CHIP NETWORK 100×4	
		< VARIABLE RESISTOR >	
RV801	1-238-089-11	RES, ADJ, CERMET 4.7K	
		< VIBRATOR >	
X901	1-767-426-21	VIBRATOR, CERAMIC (14.745MHz)	
**********			
*	1-664-113-12	DOE BOARD **********	
		< CONNECTOR >	
CNJ703	1-774-792-21	CONNECTOR, FPC/FFC 4P	

DOE **DPT** **DRIVER**

Ref. No.	Part No.	Description				Remark
		< DIODE >				
D702	8-719-045-93	LED AN1102W-1-TR (DOE)				
**********						
*	1-664-112-12	DPT BOARD				
		**********				
		< DIODE >				
D703	8-719-045-93	LED AN1102W-1-TR (DPT)				
**********						
*	A-3309-668-A	DRIVER BOARD, COMPLETE				
		**********				
		< CAPACITOR >				
C101	1-135-227-11	TANTAL. CHIP	100uF	20%	6.3V	
C102	1-163-243-11	CERAMIC CHIP	47PF	5%	50V	
C103	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V	
C104	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V	
C105	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V	
C106	1-104-823-11	TANTAL. CHIP	47uF	20%	16V	
C107	1-104-823-11	TANTAL. CHIP	47uF	20%	16V	
C111	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V	
C200	1-104-823-11	TANTAL. CHIP	47uF	20%	16V	
C201	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V	
C202	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V	
C203	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V	
C204	1-104-914-11	TANTAL. CHIP	22uF	20%	16V	
C205	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V	
C221	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	
C222	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	
C223	1-163-121-00	CERAMIC CHIP	150PF	5%	50V	
C224	1-163-017-00	CERAMIC CHIP	0.0047uF	10%	50V	
C225	1-163-121-00	CERAMIC CHIP	150PF	5%	50V	
C226	1-163-017-00	CERAMIC CHIP	0.0047uF	10%	50V	
C227	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V	
C228	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V	
C229	1-104-823-11	TANTAL. CHIP	47uF	20%	16V	
C230	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V	
C231	1-104-823-11	TANTAL. CHIP	47uF	20%	16V	
C232	1-163-121-00	CERAMIC CHIP	150PF	5%	50V	
C233	1-163-121-00	CERAMIC CHIP	150PF	5%	50V	
C234	1-110-501-11	CERAMIC CHIP	0.33uF	10%	16V	
C235	1-163-125-00	CERAMIC CHIP	220PF	5%	50V	
C251	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V	
C252	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V	
C253	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V	
C254	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V	
C255	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V	
C256	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V	
C257	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V	
C258	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V	
C259	1-135-227-11	TANTAL. CHIP	100uF	20%	6.3V	
		< CONNECTOR >				
CNJ101	1-766-767-21	CONNECTOR, FPC 12P				
CNJ102	1-778-817-21	CONNECTOR, FPC 22P				
CNJ201	1-764-621-21	CONNECTOR, FFC/FPC (ZIF) 6P				
CNJ202	1-766-767-21	CONNECTOR, FPC 12P				
CNJ203	1-778-775-21	CONNECTOR, FPC 13P				
CNJ204	1-778-815-21	CONNECTOR, FPC 8P				
		< IC >				
IC101	8-752-069-93	IC CXA1791M-T6				
IC201	8-759-070-68	IC BA6247FP-Y				
IC202	8-759-071-79	IC BA6297AFP				
IC251	8-759-159-54	IC NJU7104AM				
IC252	8-759-927-72	IC TL1591CP				
IC253	8-759-981-69	IC LM2904M				
		< COIL >				
L101	1-412-058-11	INDUCTOR CHIP 10uH				
		< PHOTO INTERRUPTER >				
PH101	8-749-925-02	PHOTO INTERRUPTER SG-223				
		< TRANSISTOR >				
Q101	8-729-141-48	TRANSISTOR 2SB624-BV345				
Q103	8-729-027-31	TRANSISTOR DTA124EKA-T146				
Q252	8-729-820-68	TRANSISTOR 2SD1802FA-S				
		< RESISTOR >				
R101	1-216-093-00	METAL CHIP	68K	5%	1/10W	
R102	1-216-093-00	METAL CHIP	68K	5%	1/10W	
R103	1-216-093-00	METAL CHIP	68K	5%	1/10W	
R104	1-216-093-00	METAL CHIP	68K	5%	1/10W	
R105	1-216-093-00	METAL CHIP	68K	5%	1/10W	
R106	1-216-093-00	METAL CHIP	68K	5%	1/10W	
R107	1-216-024-00	METAL CHIP	91	5%	1/10W	
R111	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R112	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R113	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R114	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R115	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R116	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R117	1-216-009-00	METAL CHIP	22	5%	1/10W	
R118	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R119	1-216-041-00	METAL CHIP	470	5%	1/10W	
R201	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R202	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R203	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R221	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R222	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R223	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R224	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R225	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R226	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R227	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R228	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R229	1-216-085-00	METAL CHIP	33K	5%	1/10W	
R230	1-216-085-00	METAL CHIP	33K	5%	1/10W	
R231	1-216-085-00	METAL CHIP	33K	5%	1/10W	
R232	1-216-085-00	METAL CHIP	33K	5%	1/10W	
R233	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R235	1-216-308-00	METAL CHIP	4.7	5%	1/10W	
R236	1-216-085-00	METAL CHIP	33K	5%	1/10W	

Ref. No.	Part No.	Description			Remark
R237	1-216-085-00	METAL CHIP	33K	5%	1/10W
R238	1-216-073-00	METAL CHIP	10K	5%	1/10W
R239	1-216-073-00	METAL CHIP	10K	5%	1/10W
R240	1-216-093-00	METAL CHIP	68K	5%	1/10W
R241	1-216-093-00	METAL CHIP	68K	5%	1/10W
R251	1-216-073-00	METAL CHIP	10K	5%	1/10W
R252	1-216-073-00	METAL CHIP	10K	5%	1/10W
R253	1-216-073-00	METAL CHIP	10K	5%	1/10W
R255	1-216-073-00	METAL CHIP	10K	5%	1/10W
R256	1-216-085-00	METAL CHIP	33K	5%	1/10W
R257	1-216-085-00	METAL CHIP	33K	5%	1/10W
R258	1-216-073-00	METAL CHIP	10K	5%	1/10W
R261	1-216-093-00	METAL CHIP	68K	5%	1/10W
R262	1-216-093-00	METAL CHIP	68K	5%	1/10W
R263	1-216-093-00	METAL CHIP	68K	5%	1/10W
R264	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R265	1-216-085-00	METAL CHIP	33K	5%	1/10W
R267	1-216-001-00	METAL CHIP	10	5%	1/10W
R268	1-216-001-00	METAL CHIP	10	5%	1/10W
R269	1-216-037-00	METAL CHIP	330	5%	1/10W
		< VARIABLE RESISTOR >			
RV101	1-238-091-11	RES, ADJ, CERMET 22K			
RV102	1-238-091-11	RES, ADJ, CERMET 22K			
**********					
*	A-3309-657-A	DSP BOARD, COMPLETE			
		**********			
*	3-008-595-01	CASE (DSP PC BOARD), SHIELD			
*	3-009-031-01	COVER (CONNECTOR)			
*	3-014-157-01	SPACER (DD CONVERTER A)			
*	3-014-158-01	SPACER (DD CONVERTER B)			
	7-685-146-11	SCREW +P 3×8 TYPE2 NON-SLIT			
		< CAPACITOR >			
C101	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C102	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C103	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C104	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C105	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C106	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C107	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C108	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C109	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C110	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C111	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C112	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C114	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C115	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C116	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C117	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C119	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C120	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C131	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C132	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C201	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C202	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C203	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C204	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V

Ref. No.	Part No.	Description			Remark
C205	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C206	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C207	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C208	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C209	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C210	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C211	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C212	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C213	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C214	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C215	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C216	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C217	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C301	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C302	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C303	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C304	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C305	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C311	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C312	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C316	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C371	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C381	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C382	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C383	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C391	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C392	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C393	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C401	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C402	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C403	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C404	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C405	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C411	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C412	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C413	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C414	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C415	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C416	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C417	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C418	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C421	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C501	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C502	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C503	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C504	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C505	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C506	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C507	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C508	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C509	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C510	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C601	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C605	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C606	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C607	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C608	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C609	1-164-232-11	CERAMIC CHIP	0.01uF		50V

DSP

Ref. No.	Part No.	Description			Remark
C610	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C611	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C612	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C613	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C621	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C702	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C703	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C704	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C705	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C706	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C707	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C710	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C802	1-136-165-00	FILM	0.1uF	5%	50V
C803	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C804	1-104-539-11	FILM	0.001uF	5%	50V
C805	1-104-559-11	FILM	0.047uF	5%	16V
C811	1-124-704-11	ELECT	3300uF	20%	25V
C812	1-136-960-11	FILM	0.1uF	10%	160V
C814	1-126-964-11	ELECT	10uF	20%	50V
C821	1-124-689-11	ELECT	1000uF	20%	16V
C822	1-136-165-00	FILM	0.1uF	5%	50V
C831	1-126-013-11	ELECT	1000uF	20%	16V
C832	1-136-165-00	FILM	0.1uF	5%	50V
C841	1-126-013-11	ELECT	1000uF	20%	16V
C842	1-136-165-00	FILM	0.1uF	5%	50V
C843	1-126-933-11	ELECT	100uF	20%	16V
C844	1-124-599-11	ELECT	220uF	20%	25V
C846	1-128-222-11	ELECT	330uF	20%	16V
C847	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C851	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C852	1-126-933-11	ELECT	100uF	20%	16V
C853	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C854	1-126-964-11	ELECT	10uF	20%	50V
C855	1-126-933-11	ELECT	100uF	20%	16V
C856	1-125-710-11	DOUBLE LAYER	0.1F		5.5V
C858	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C859	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C860	1-126-933-11	ELECT	100uF	20%	16V
C861	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C862	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C863	1-126-933-11	ELECT	100uF	20%	16V
C864	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C865	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C866	1-126-933-11	ELECT	100uF	20%	16V
C867	1-126-163-11	ELECT	4.7uF	20%	50V
C901	1-104-551-11	FILM	0.01uF	5%	50V
C902	1-104-551-11	FILM	0.01uF	5%	50V
C903	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
		< TERMINAL/CONNECTOR/IC >			
CN11	1-537-477-11	TERMINAL BOARD (3P) (POWER)			
CN12	1-778-830-11	CONNECTOR (BUS) (MASTER BUS CONTROL)			
CN13	1-580-907-31	PLUG, CONNECTOR (SONY BUS CONTROL)			
CN14	8-749-923-62	IC TORX-193 (DIGITAL IN AUX AUDIO)			
CN21	1-506-947-11	PIN, CONNECTOR 6P			
CN22	1-779-121-11	PIN, CONNECTOR 12P			
CN31	1-779-119-11	PIN, CONNECTOR 5P			
CN32	1-779-118-11	PIN, CONNECTOR 4P			
CN33	1-779-068-21	PIN, CONNECTOR 5P			

Ref. No.	Part No.	Description	Remark
CN34	1-506-945-11	PIN, CONNECTOR 3P	
CN41	1-778-939-11	CONNECTOR, FFC/FPC (ZIF) 30P	
* CN42	1-766-324-11	CONNECTOR, FFC/FPC (ZIF) 8P	
		< DIODE >	
D391	8-719-975-40	DIODE RB411D	
D392	8-719-975-40	DIODE RB411D	
D393	8-719-404-49	DIODE MA111	
D395	8-719-404-49	DIODE MA111	
D396	8-719-404-49	DIODE MA111	
D701	8-719-404-49	DIODE MA111	
D702	8-719-404-49	DIODE MA111	
D703	8-719-422-64	DIODE MA8062-M	
D704	8-719-422-64	DIODE MA8062-M	
D705	8-719-422-64	DIODE MA8062-M	
D706	8-719-422-64	DIODE MA8062-M	
D707	8-719-422-64	DIODE MA8062-M	
D708	8-719-422-64	DIODE MA8062-M	
D709	8-719-422-64	DIODE MA8062-M	
D710	8-719-422-64	DIODE MA8062-M	
D711	8-719-422-64	DIODE MA8062-M	
D801	8-719-061-72	DIODE ERB81-004K	
D802	8-719-210-33	DIODE EC10DS2	
D803	8-719-404-49	DIODE MA111	
D804	8-719-422-64	DIODE MA8062-M	
D805	8-719-975-40	DIODE RB411D	
D806	8-719-404-49	DIODE MA111	
D807	8-719-976-99	DIODE DTZ5.1B	
D841	8-719-048-98	DIODE RB160L-40TE25	
D842	8-719-812-41	LED TLR124	
D843	8-719-404-49	DIODE MA111	
D904	8-719-422-64	DIODE MA8062-M	
D905	8-719-422-64	DIODE MA8062-M	
D906	8-719-422-64	DIODE MA8062-M	
D907	8-719-422-64	DIODE MA8062-M	
D908	8-719-422-64	DIODE MA8062-M	
D909	8-719-422-64	DIODE MA8062-M	
D910	8-719-422-64	DIODE MA8062-M	
D911	8-719-422-64	DIODE MA8062-M	
		< FERRITE BEAD >	
FB101	1-414-235-11	INDUCTOR, FERRITE BEAD	
FB102	1-414-235-11	INDUCTOR, FERRITE BEAD	
FB103	1-414-235-11	INDUCTOR, FERRITE BEAD	
FB104	1-414-235-11	INDUCTOR, FERRITE BEAD	
FB105	1-414-235-11	INDUCTOR, FERRITE BEAD	
FB106	1-414-235-11	INDUCTOR, FERRITE BEAD	
FB107	1-414-235-11	INDUCTOR, FERRITE BEAD	
FB108	1-414-235-11	INDUCTOR, FERRITE BEAD	
FB109	1-414-235-11	INDUCTOR, FERRITE BEAD	
FB110	1-414-235-11	INDUCTOR, FERRITE BEAD	
FB121	1-414-235-11	INDUCTOR, FERRITE BEAD	
FB131	1-414-235-11	INDUCTOR, FERRITE BEAD	
FB201	1-414-235-11	INDUCTOR, FERRITE BEAD	
FB202	1-414-235-11	INDUCTOR, FERRITE BEAD	
FB203	1-414-235-11	INDUCTOR, FERRITE BEAD	
FB204	1-414-235-11	INDUCTOR, FERRITE BEAD	
FB205	1-414-235-11	INDUCTOR, FERRITE BEAD	
FB206	1-414-235-11	INDUCTOR, FERRITE BEAD	

Ref. No.	Part No.	Description	Remark
FB207	1-414-235-11	INDUCTOR, FERRITE BEAD	
FB208	1-414-235-11	INDUCTOR, FERRITE BEAD	
FB209	1-414-235-11	INDUCTOR, FERRITE BEAD	
FB210	1-414-235-11	INDUCTOR, FERRITE BEAD	
FB221	1-414-235-11	INDUCTOR, FERRITE BEAD	
FB301	1-414-235-11	INDUCTOR, FERRITE BEAD	
FB401	1-414-235-11	INDUCTOR, FERRITE BEAD	
FB402	1-414-235-11	INDUCTOR, FERRITE BEAD	
FB403	1-414-235-11	INDUCTOR, FERRITE BEAD	
FB404	1-414-235-11	INDUCTOR, FERRITE BEAD	
FB501	1-414-235-11	INDUCTOR, FERRITE BEAD	
FB502	1-414-235-11	INDUCTOR, FERRITE BEAD	
FB623	1-414-235-11	INDUCTOR, FERRITE BEAD	
FB701	1-414-235-11	INDUCTOR, FERRITE BEAD	
FB702	1-414-235-11	INDUCTOR, FERRITE BEAD	
FB703	1-414-235-11	INDUCTOR, FERRITE BEAD	
FB704	1-414-235-11	INDUCTOR, FERRITE BEAD	
FB705	1-414-235-11	INDUCTOR, FERRITE BEAD	
		< FUSE TERMINAL >	
FF1	1-537-479-21	TERMINAL, FUSE	
FF2	1-537-479-21	TERMINAL, FUSE	
		< IC >	
IC101	8-752-379-58	IC CXD2711Q	
IC102	8-759-364-50	IC HM51W4260CLTT-7	
IC103	8-759-096-87	IC TC7WU04FU (TE12R)	
IC105	8-759-443-28	IC 74LVXC4245QSCX	
IC201	8-752-379-58	IC CXD2711Q	
IC202	8-759-364-50	IC HM51W4260CLTT-7	
IC301	8-759-443-32	IC HD6473048-DSP01	
IC302	8-759-443-04	IC AT24C32N-10SI-TR	
IC303	8-759-326-78	IC PST9140NL	
IC304	8-759-443-28	IC 74LVXC4245QSCX	
IC305	8-759-277-63	IC TC7W14FU (TE12R)	
IC306	8-759-284-87	IC MM1284XFFE	
IC401	8-759-486-69	IC MBM29F016-90PFTN-DSP02L	
IC402	8-759-486-70	IC MBM29F016-90PFTN-DSP02H	
IC411	8-759-079-60	IC TC74VHC32FS (EL)	
IC412	8-759-079-46	IC TC74VHC00FS (EL)	
IC413	8-759-079-67	IC TC74VHC125FS (EL)	
IC414	8-759-079-49	IC TC74VHC04FS (EL)	
IC415	8-759-080-08	IC TC74VHC595FS (EL)	
IC416	8-759-079-67	IC TC74VHC125FS (EL)	
IC417	8-759-079-67	IC TC74VHC125FS (EL)	
IC418	8-759-080-02	IC TC74VHC541FS (EL)	
IC502	8-759-164-46	IC CS8412-IS-E1	
IC503	8-759-082-57	IC TC7W04FU	
IC601	8-752-372-30	IC CXD2710R	
IC602	8-759-096-87	IC TC7WU04FU (TE12R)	
IC603	8-759-080-02	IC TC74VHC541FS (EL)	
IC701	8-759-079-67	IC TC74VHC125FS (EL)	
IC702	8-759-443-25	IC IS0150AU	
IC703	8-759-443-25	IC IS0150AU	
IC801	8-759-701-59	IC NJM78M09FA	
IC802	8-759-335-72	IC uPC24A05HF	
IC803	8-759-443-30	IC MC33269DTRK-3.3	
IC804	8-759-443-24	IC SAI01-V1	

Ref. No.	Part No.	Description	Remark
		< COIL >	
L301	1-412-058-11	INDUCTOR CHIP 10uH	
L501	1-412-062-11	INDUCTOR CHIP 47uH	
L502	1-412-060-11	INDUCTOR CHIP 22uH	
L601	1-412-060-11	INDUCTOR CHIP 22uH	
L603	1-412-058-11	INDUCTOR CHIP 10uH	
L604	1-412-058-11	INDUCTOR CHIP 10uH	
L801	1-406-723-11	COIL, CHOKE (TROIDAL) 700uH	
L802	1-406-723-11	COIL, CHOKE (TROIDAL) 700uH	
L803	1-415-937-11	COIL, CHOKE 125uH	
L804	1-412-055-11	INDUCTOR CHIP 3.3uH	
L841	1-416-040-11	COIL, CHOKE 220uH	
L843	1-412-055-11	INDUCTOR CHIP 3.3uH	
L844	1-412-058-11	INDUCTOR CHIP 10uH	
		< TRANSISTOR >	
Q392	8-729-424-08	TRANSISTOR UN2111	
Q393	8-729-424-08	TRANSISTOR UN2111	
Q502	8-729-904-60	TRANSISTOR DTB113ZK	
Q503	8-729-421-19	TRANSISTOR UN2213	
Q801	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q802	8-729-040-17	TRANSISTOR 2SD2164-K	
Q803	8-729-025-88	TRANSISTOR 2SB1386-T100-R	
Q804	8-729-421-22	TRANSISTOR UN2211	
Q871	8-729-822-84	TRANSISTOR 2SB1202FAST	
Q872	8-729-421-22	TRANSISTOR UN2211	
		< RESISTOR/CHIP CONDUCTOR >	
R101	1-216-805-11	METAL CHIP 47 5% 1/16W	
R110	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R111	1-216-813-11	METAL CHIP 220 5% 1/16W	
R112	1-216-025-00	METAL CHIP 100 5% 1/10W	
R113	1-216-025-00	METAL CHIP 100 5% 1/10W	
R130	1-216-811-11	METAL CHIP 150 5% 1/16W	
R134	1-216-033-00	METAL CHIP 220 5% 1/10W	
R135	1-216-033-00	METAL CHIP 220 5% 1/10W	
R136	1-216-033-00	METAL CHIP 220 5% 1/10W	
R137	1-216-033-00	METAL CHIP 220 5% 1/10W	
R138	1-216-033-00	METAL CHIP 220 5% 1/10W	
R146	1-216-809-11	METAL CHIP 100 5% 1/16W	
R149	1-216-811-11	METAL CHIP 150 5% 1/16W	
R150	1-216-811-11	METAL CHIP 150 5% 1/16W	
R151	1-216-811-11	METAL CHIP 150 5% 1/16W	
R152	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R153	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R178	1-216-813-11	METAL CHIP 220 5% 1/16W	
R179	1-216-857-11	METAL CHIP 1M 5% 1/16W	
R180	1-216-809-11	METAL CHIP 100 5% 1/16W	
R181	1-216-295-00	CONDUCTOR, CHIP (2012)	
R201	1-216-805-11	METAL CHIP 47 5% 1/16W	
R210	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R211	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R212	1-216-025-00	METAL CHIP 100 5% 1/10W	
R230	1-216-811-11	METAL CHIP 150 5% 1/16W	
R246	1-216-809-11	METAL CHIP 100 5% 1/16W	
R249	1-216-811-11	METAL CHIP 150 5% 1/16W	
R250	1-216-811-11	METAL CHIP 150 5% 1/16W	
R251	1-216-811-11	METAL CHIP 150 5% 1/16W	

DSP

Ref. No.	Part No.	Description			Remark
R252	1-216-845-11	METAL CHIP	100K	5%	1/16W
R253	1-216-845-11	METAL CHIP	100K	5%	1/16W
R301	1-216-025-00	METAL CHIP	100	5%	1/10W
R302	1-216-025-00	METAL CHIP	100	5%	1/10W
R303	1-216-025-00	METAL CHIP	100	5%	1/10W
R304	1-216-025-00	METAL CHIP	100	5%	1/10W
R305	1-216-025-00	METAL CHIP	100	5%	1/10W
R306	1-216-025-00	METAL CHIP	100	5%	1/10W
R307	1-216-025-00	METAL CHIP	100	5%	1/10W
R308	1-216-295-00	CONDUCTOR, CHIP (2012)			
R309	1-216-025-00	METAL CHIP	100	5%	1/10W
R310	1-216-025-00	METAL CHIP	100	5%	1/10W
R311	1-216-295-00	CONDUCTOR, CHIP (2012)			
R321	1-216-025-00	METAL CHIP	100	5%	1/10W
R322	1-216-041-00	METAL CHIP	470	5%	1/10W
R323	1-216-041-00	METAL CHIP	470	5%	1/10W
R324	1-216-295-00	CONDUCTOR, CHIP (2012)			
R325	1-216-025-00	METAL CHIP	100	5%	1/10W
R326	1-216-025-00	METAL CHIP	100	5%	1/10W
R327	1-216-025-00	METAL CHIP	100	5%	1/10W
R328	1-216-295-00	CONDUCTOR, CHIP (2012)			
R329	1-216-049-00	METAL CHIP	1K	5%	1/10W
R330	1-216-049-00	METAL CHIP	1K	5%	1/10W
R331	1-216-045-00	METAL CHIP	680	5%	1/10W
R333	1-216-097-00	METAL CHIP	100K	5%	1/10W
R334	1-216-097-00	METAL CHIP	100K	5%	1/10W
R335	1-216-097-00	METAL CHIP	100K	5%	1/10W
R341	1-216-295-00	CONDUCTOR, CHIP (2012)			
R342	1-216-295-00	CONDUCTOR, CHIP (2012)			
R345	1-216-295-00	CONDUCTOR, CHIP (2012)			
R348	1-216-097-00	METAL CHIP	100K	5%	1/10W
R349	1-216-295-00	CONDUCTOR, CHIP (2012)			
R351	1-216-025-00	METAL CHIP	100	5%	1/10W
R352	1-216-025-00	METAL CHIP	100	5%	1/10W
R353	1-216-025-00	METAL CHIP	100	5%	1/10W
R355	1-216-097-00	METAL CHIP	100K	5%	1/10W
R356	1-216-097-00	METAL CHIP	100K	5%	1/10W
R357	1-216-097-00	METAL CHIP	100K	5%	1/10W
R359	1-216-073-00	METAL CHIP	10K	5%	1/10W
R360	1-216-025-00	METAL CHIP	100	5%	1/10W
R361	1-216-025-00	METAL CHIP	100	5%	1/10W
R362	1-216-025-00	METAL CHIP	100	5%	1/10W
R363	1-216-025-00	METAL CHIP	100	5%	1/10W
R364	1-216-025-00	METAL CHIP	100	5%	1/10W
R365	1-216-025-00	METAL CHIP	100	5%	1/10W
R366	1-216-025-00	METAL CHIP	100	5%	1/10W
R368	1-216-097-00	METAL CHIP	100K	5%	1/10W
R370	1-216-097-00	METAL CHIP	100K	5%	1/10W
R371	1-216-089-00	METAL CHIP	47K	5%	1/10W
R381	1-216-073-00	METAL CHIP	10K	5%	1/10W
R382	1-216-025-00	METAL CHIP	100	5%	1/10W
R384	1-216-025-00	METAL CHIP	100	5%	1/10W
R385	1-216-025-00	METAL CHIP	100	5%	1/10W
R391	1-216-025-00	METAL CHIP	100	5%	1/10W
R392	1-216-025-00	METAL CHIP	100	5%	1/10W
R393	1-216-025-00	METAL CHIP	100	5%	1/10W
R394	1-216-025-00	METAL CHIP	100	5%	1/10W
R395	1-216-089-00	METAL CHIP	47K	5%	1/10W
R401	1-216-097-00	METAL CHIP	100K	5%	1/10W
R403	1-216-097-00	METAL CHIP	100K	5%	1/10W
R404	1-216-089-00	METAL CHIP	47K	5%	1/10W
R411	1-216-025-00	METAL CHIP	100	5%	1/10W
R412	1-216-025-00	METAL CHIP	100	5%	1/10W
R413	1-216-025-00	METAL CHIP	100	5%	1/10W
R414	1-216-025-00	METAL CHIP	100	5%	1/10W
R415	1-216-025-00	METAL CHIP	100	5%	1/10W
R417	1-216-025-00	METAL CHIP	100	5%	1/10W
R421	1-216-097-00	METAL CHIP	100K	5%	1/10W
R423	1-216-017-00	METAL CHIP	47	5%	1/10W
R424	1-216-025-00	METAL CHIP	100	5%	1/10W
R425	1-216-025-00	METAL CHIP	100	5%	1/10W
R431	1-216-025-00	METAL CHIP	100	5%	1/10W
R432	1-216-025-00	METAL CHIP	100	5%	1/10W
R433	1-216-025-00	METAL CHIP	100	5%	1/10W
R434	1-216-025-00	METAL CHIP	100	5%	1/10W
R435	1-216-025-00	METAL CHIP	100	5%	1/10W
R441	1-216-025-00	METAL CHIP	100	5%	1/10W
R442	1-216-097-00	METAL CHIP	100K	5%	1/10W
R443	1-216-025-00	METAL CHIP	100	5%	1/10W
R444	1-216-025-00	METAL CHIP	100	5%	1/10W
R445	1-216-025-00	METAL CHIP	100	5%	1/10W
R446	1-216-025-00	METAL CHIP	100	5%	1/10W
R447	1-216-025-00	METAL CHIP	100	5%	1/10W
R448	1-216-025-00	METAL CHIP	100	5%	1/10W
R450	1-216-073-00	METAL CHIP	10K	5%	1/10W
R451	1-216-025-00	METAL CHIP	100	5%	1/10W
R452	1-216-097-00	METAL CHIP	100K	5%	1/10W
R461	1-216-025-00	METAL CHIP	100	5%	1/10W
R462	1-216-097-00	METAL CHIP	100K	5%	1/10W
R463	1-216-025-00	METAL CHIP	100	5%	1/10W
R464	1-216-097-00	METAL CHIP	100K	5%	1/10W
R471	1-216-809-11	METAL CHIP	100	5%	1/16W
R472	1-216-809-11	METAL CHIP	100	5%	1/16W
R473	1-216-809-11	METAL CHIP	100	5%	1/16W
R474	1-216-809-11	METAL CHIP	100	5%	1/16W
R475	1-216-809-11	METAL CHIP	100	5%	1/16W
R476	1-216-809-11	METAL CHIP	100	5%	1/16W
R501	1-216-025-00	METAL CHIP	100	5%	1/10W
R502	1-216-025-00	METAL CHIP	100	5%	1/10W
R503	1-216-025-00	METAL CHIP	100	5%	1/10W
R504	1-216-025-00	METAL CHIP	100	5%	1/10W
R505	1-216-025-00	METAL CHIP	100	5%	1/10W
R506	1-216-025-00	METAL CHIP	100	5%	1/10W
R507	1-216-049-00	METAL CHIP	1K	5%	1/10W
R508	1-216-041-00	METAL CHIP	470	5%	1/10W
R509	1-216-025-00	METAL CHIP	100	5%	1/10W
R510	1-216-025-00	METAL CHIP	100	5%	1/10W
R601	1-216-001-00	METAL CHIP	10	5%	1/10W
R603	1-216-097-00	METAL CHIP	100K	5%	1/10W
R605	1-216-097-00	METAL CHIP	100K	5%	1/10W
R606	1-216-041-00	METAL CHIP	470	5%	1/10W
R607	1-216-041-00	METAL CHIP	470	5%	1/10W
R608	1-216-041-00	METAL CHIP	470	5%	1/10W
R609	1-216-041-00	METAL CHIP	470	5%	1/10W
R610	1-216-041-00	METAL CHIP	470	5%	1/10W
R612	1-216-025-00	METAL CHIP	100	5%	1/10W
R613	1-216-025-00	METAL CHIP	100	5%	1/10W
R614	1-216-025-00	METAL CHIP	100	5%	1/10W

Ref. No.	Part No.	Description			Remark
R615	1-216-025-00	METAL CHIP	100	5%	1/10W
R616	1-216-025-00	METAL CHIP	100	5%	1/10W
R621	1-216-121-00	METAL CHIP	1M	5%	1/10W
R623	1-216-025-00	METAL CHIP	100	5%	1/10W
R624	1-216-295-00	CONDUCTOR, CHIP (2012)			
R631	1-216-097-00	METAL CHIP	100K	5%	1/10W
R634	1-216-045-00	METAL CHIP	680	5%	1/10W
R701	1-216-025-00	METAL CHIP	100	5%	1/10W
R702	1-216-025-00	METAL CHIP	100	5%	1/10W
R703	1-216-025-00	METAL CHIP	100	5%	1/10W
R704	1-216-025-00	METAL CHIP	100	5%	1/10W
R705	1-216-025-00	METAL CHIP	100	5%	1/10W
R706	1-216-025-00	METAL CHIP	100	5%	1/10W
R707	1-216-025-00	METAL CHIP	100	5%	1/10W
R708	1-216-025-00	METAL CHIP	100	5%	1/10W
R711	1-216-025-00	METAL CHIP	100	5%	1/10W
R712	1-216-025-00	METAL CHIP	100	5%	1/10W
R713	1-216-025-00	METAL CHIP	100	5%	1/10W
R714	1-216-025-00	METAL CHIP	100	5%	1/10W
R715	1-216-025-00	METAL CHIP	100	5%	1/10W
R802	1-216-089-00	METAL CHIP	47K	5%	1/10W
R803	1-216-689-11	METAL CHIP	39K	0.5%	1/10W
R804	1-216-105-00	METAL CHIP	220K	5%	1/10W
R806	1-216-077-00	METAL CHIP	15K	5%	1/10W
R807	1-216-089-00	METAL CHIP	47K	5%	1/10W
R808	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R809	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R810	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R811	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R841	1-216-049-00	METAL CHIP	1K	5%	1/10W
R842	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R843	1-216-049-00	METAL CHIP	1K	5%	1/10W
R844	1-216-049-00	METAL CHIP	1K	5%	1/10W
R845	1-216-049-00	METAL CHIP	1K	5%	1/10W
R873	1-216-073-00	METAL CHIP	10K	5%	1/10W
R874	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R875	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R901	1-216-017-00	METAL CHIP	47	5%	1/10W
R902	1-216-017-00	METAL CHIP	47	5%	1/10W
R921	1-216-097-00	METAL CHIP	100K	5%	1/10W
R922	1-216-097-00	METAL CHIP	100K	5%	1/10W
R923	1-216-097-00	METAL CHIP	100K	5%	1/10W
		< NETWORK RESISTOR >			
RB101	1-233-576-11	RES, CHIP NETWORK 100×4			
RB102	1-233-576-11	RES, CHIP NETWORK 100×4			
RB103	1-233-576-11	RES, CHIP NETWORK 100×4			
RB104	1-233-576-11	RES, CHIP NETWORK 100×4			
RB105	1-233-576-11	RES, CHIP NETWORK 100×4			
RB106	1-233-576-11	RES, CHIP NETWORK 100×4			
RB107	1-233-576-11	RES, CHIP NETWORK 100×4			
RB108	1-233-576-11	RES, CHIP NETWORK 100×4			
RB201	1-233-576-11	RES, CHIP NETWORK 100×4			
RB202	1-233-576-11	RES, CHIP NETWORK 100×4			
RB203	1-233-576-11	RES, CHIP NETWORK 100×4			
RB204	1-233-576-11	RES, CHIP NETWORK 100×4			
RB205	1-233-576-11	RES, CHIP NETWORK 100×4			
RB206	1-233-576-11	RES, CHIP NETWORK 100×4			
RB207	1-233-576-11	RES, CHIP NETWORK 100×4			
RB208	1-233-576-11	RES, CHIP NETWORK 100×4			
RB301	1-233-576-11	RES, CHIP NETWORK 100×4			
RB302	1-233-576-11	RES, CHIP NETWORK 100×4			
RB303	1-233-576-11	RES, CHIP NETWORK 100×4			
RB304	1-233-576-11	RES, CHIP NETWORK 100×4			
RB305	1-233-576-11	RES, CHIP NETWORK 100×4			
RB306	1-233-576-11	RES, CHIP NETWORK 100×4			
RB307	1-233-576-11	RES, CHIP NETWORK 100×4			
RB308	1-233-576-11	RES, CHIP NETWORK 100×4			
RB309	1-233-576-11	RES, CHIP NETWORK 100×4			
RB311	1-233-810-21	RES, NETWORK 100K×4 (3216)			
RB312	1-233-810-21	RES, NETWORK 100K×4 (3216)			
RB313	1-233-810-21	RES, NETWORK 100K×4 (3216)			
RB314	1-233-810-21	RES, NETWORK 100K×4 (3216)			
RB315	1-233-810-21	RES, NETWORK 100K×4 (3216)			
RB316	1-233-810-21	RES, NETWORK 100K×4 (3216)			
RB317	1-233-810-21	RES, NETWORK 100K×4 (3216)			
RB318	1-233-810-21	RES, NETWORK 100K×4 (3216)			
RB319	1-233-810-21	RES, NETWORK 100K×4 (3216)			
RB381	1-233-576-11	RES, CHIP NETWORK 100×4			
RB382	1-233-576-11	RES, CHIP NETWORK 100×4			
RB383	1-233-576-11	RES, CHIP NETWORK 100×4			
RB384	1-233-576-11	RES, CHIP NETWORK 100×4			
RB401	1-216-182-00	RES, CHIP NETWORK 220×4 (3216)			
RB402	1-216-182-00	RES, CHIP NETWORK 220×4 (3216)			
RB403	1-216-182-00	RES, CHIP NETWORK 220×4 (3216)			
RB404	1-216-182-00	RES, CHIP NETWORK 220×4 (3216)			
		< THERMISTOR >			
TH872	1-810-940-11	THERMISTOR, POSITIVE			
		< VARISTOR >			
VDR801	1-806-500-11	VARISTOR			
		< VIBRATOR >			
X101	1-767-382-11	VIBRATOR, CERAMIC (40.0MHz)			
X301	1-767-426-21	VIBRATOR, CERAMIC (14.74MHz)			
X601	1-767-427-21	VIBRATOR, CERAMIC (18.43MHz)			
**********					
*	1-664-114-12	EJT BOARD *********			
		< CONNECTOR >			
CNP11	1-580-057-11	PIN, CONNECTOR 4P			
		< SWITCH >			
SW11	1-762-737-11	SWITCH, KEYBOARD (LED) (⏏)			
SW12	1-692-072-11	SWITCH, PUSH (1 KEY) (DOOR OPEN/CLOSE DET)			
**********					
*	1-664-165-12	LINE IN BOARD **********			
		< CONNECTOR >			

LINE IN | **LINE OUT** | **MAIN**

Ref. No.	Part No.	Description	Remark
CN2011	1-779-118-11	PIN, CONNECTOR 4P	
		< PIN JACK >	
JK2011	1-573-057-21	JACK, PIN 1P (ANALOG IN AUX AUDIO L)	
JK2012	1-573-057-31	JACK, PIN 1P (ANALOG IN AUX AUDIO R)	
**********			
*	1-664-164-12	LINE OUT BOARD **********	
		< CONNECTOR >	
CN3001	1-779-070-21	PIN, CONNECTOR 12P	
		< PIN JACK >	
JK3011	1-573-057-21	JACK, PIN 1P (LINE OUT HIGH FRONT L)	
JK3012	1-573-057-31	JACK, PIN 1P (LINE OUT HIGH FRONT R)	
JK3021	1-573-057-21	JACK, PIN 1P (LINE OUT MID REAR L)	
JK3022	1-573-057-31	JACK, PIN 1P (LINE OUT MID REAR R)	
JK3031	1-573-057-21	JACK, PIN 1P (LINE OUT SUB WOOFER L)	
JK3032	1-573-057-31	JACK, PIN 1P (LINE OUT SUB WOOFER R)	
**********			
*	A-3313-237-A	MAIN BOARD, COMPLETE **********	
*	3-011-594-01	HEAT SINK (MAIN PC BOARD)	
	7-621-770-67	SCREW +B 2.6×6	
	7-685-146-11	SCREW +P 3×8 TYPE2 NON-SLIT	
		< CAPACITOR >	
C501	1-126-027-11	ELECT 1000uF 20% 25V	
C502	1-136-960-11	FILM 0.1uF 10% 160V	
C503	1-126-012-11	ELECT 470uF 20% 16V	
C504	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C505	1-104-955-11	ELECT 100uF 20% 10V	
C506	1-104-955-11	ELECT 100uF 20% 10V	
C507	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C508	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C510	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C511	1-126-177-11	ELECT 100uF 20% 10V	
C512	1-104-945-11	ELECT 4.7uF 20% 50V	
C513	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C514	1-125-710-11	DOUBLE LAYER 0.1F 5.5V	
C515	1-126-935-11	ELECT 470uF 20% 16V	
C516	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C517	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C518	1-135-259-11	TANTAL. CHIP 10uF 10% 6.3V	
C519	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C520	1-163-099-00	CERAMIC CHIP 18PF 5% 50V	
C521	1-163-231-11	CERAMIC CHIP 15PF 5% 50V	
C522	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C523	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C524	1-104-851-11	TANTAL. CHIP 10uF 20% 10V	
C525	1-115-156-11	CERAMIC CHIP 1uF 10V	
C526	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C527	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C528	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C529	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
C530	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
C531	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
C532	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C533	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C534	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C535	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C536	1-126-177-11	ELECT 100uF 20% 10V	
C537	1-163-141-00	CERAMIC CHIP 0.001uF 5% 50V	
C538	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C539	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C540	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C541	1-164-360-11	CERAMIC CHIP 0.1uF 16V	
C542	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C543	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
C544	1-126-177-11	ELECT 100uF 20% 10V	
C546	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
C547	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
C548	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C549	1-163-251-11	CERAMIC CHIP 100PF 5% 50V	
C550	1-163-133-00	CERAMIC CHIP 470PF 5% 50V	
C551	1-163-133-00	CERAMIC CHIP 470PF 5% 50V	
C552	1-163-133-00	CERAMIC CHIP 470PF 5% 50V	
C553	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C554	1-104-953-11	ELECT 47uF 20% 16V	
C555	1-163-251-11	CERAMIC CHIP 100PF 5% 50V	
C556	1-163-141-00	CERAMIC CHIP 0.001uF 5% 50V	
C557	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C558	1-163-251-11	CERAMIC CHIP 100PF 5% 50V	
C626	1-104-957-11	ELECT 47uF 20% 16V	
C627	1-126-160-11	ELECT 1uF 20% 50V	
C806	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C807	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C808	1-163-275-11	CERAMIC CHIP 0.001uF 5% 50V	
C809	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C810	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C811	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C812	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C817	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C818	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C819	1-135-259-11	TANTAL. CHIP 10uF 20% 6.3V	
C822	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C823	1-163-275-11	CERAMIC CHIP 0.001uF 5% 50V	
C824	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C825	1-164-489-11	CERAMIC CHIP 0.22uF 10% 16V	
C828	1-163-275-11	CERAMIC CHIP 0.001uF 5% 50V	
C829	1-163-243-11	CERAMIC CHIP 47PF 5% 50V	
C830	1-163-243-11	CERAMIC CHIP 47PF 5% 50V	
C831	1-104-953-11	ELECT 47uF 20% 16V	
C832	1-163-141-00	CERAMIC 0.001uF 5% 50V	
		< CONNECTOR/JACK >	
* CN501	1-779-454-11	PIN, CONNECTOR (PC BOARD) 6P (POWER SUPPLY CONNECTOR)	
CN502	1-778-830-11	CONNECTOR (BUS) (TO CD CHANGER)	
CN503	1-778-832-11	CONNECTOR 16P	
* CN505	1-564-708-11	PIN, CONNECTOR (SMALL TYPE) 6P	
CN506	1-564-718-11	PIN, CONNECTOR (SMALL TYPE) 2P	
CN507	1-564-723-11	PIN, CONNECTOR (SMALL TYPE) 7P	
CN508	1-778-831-11	JACK 7P (TO ROTARY COMMANDER)	
CN509	1-778-965-21	CONNECTOR 12P	
CN510	1-778-833-11	CONNECTOR 14P	

Ref. No.	Part No.	Description	Remark
		< DIODE >	
D501	8-719-049-38	DIODE 1N5404TU	
D502	8-719-053-18	DIODE 1SR154-400TE-25	
D503	8-719-977-22	DIODE DTZ9.1	
D504	8-719-977-22	DIODE DTZ9.1	
D505	8-719-977-22	DIODE DTZ9.1	
D506	8-719-801-78	DIODE 1SS184	
D507	8-719-977-12	DIODE DTZ6.8B	
D508	8-719-053-18	DIODE 1SR154-400TE-25	
D509	8-719-976-99	DIODE DTZ5.1B	
D511	8-719-041-97	DIODE MA113-TX	
D514	8-719-022-90	DIODE MA8160M	
D515	8-719-977-03	DIODE DTZ5.6B	
D516	8-719-422-64	DIODE MA8062-M	
D517	8-719-404-49	DIODE MA111	
D518	8-719-404-49	DIODE MA111	
D519	8-719-404-49	DIODE MA111	
D520	8-719-404-49	DIODE MA111	
D521	8-719-404-49	DIODE MA111	
D522	8-719-404-49	DIODE MA111	
D523	8-719-404-49	DIODE MA111	
D524	8-719-404-49	DIODE MA111	
D525	8-719-404-49	DIODE MA111	
D527	8-719-422-64	DIODE MA8062-M	
D528	8-719-422-64	DIODE MA8062-M	
D530	8-719-422-64	DIODE MA8062-M	
D531	8-719-422-64	DIODE MA8062-M	
D532	8-719-422-64	DIODE MA8062-M	
D533	8-719-404-49	DIODE MA111	
D535	8-719-422-64	DIODE MA8062-M	
D536	8-719-422-64	DIODE MA8062-M	
D538	8-719-420-90	DIODE MA8051-M	
D539	8-719-420-90	DIODE MA8051-M	
D540	8-719-422-64	DIODE MA8062-M	
D541	8-719-422-64	DIODE MA8062-M	
D542	8-719-422-64	DIODE MA8062-M	
D543	8-719-422-64	DIODE MA8062-M	
D544	8-719-422-64	DIODE MA8062-M	
D545	8-719-422-64	DIODE MA8062-M	
D546	8-719-422-64	DIODE MA8062-M	
D547	8-719-422-64	DIODE MA8062-M	
D548	8-719-422-64	DIODE MA8062-M	
D549	8-719-422-64	DIODE MA8062-M	
D550	8-719-422-64	DIODE MA8062-M	
D551	8-719-422-64	DIODE MA8062-M	
D552	8-719-422-64	DIODE MA8062-M	
D553	8-719-422-64	DIODE MA8062-M	
D554	8-719-422-64	DIODE MA8062-M	
D555	8-719-422-64	DIODE MA8062-M	
D556	8-719-404-49	DIODE MA111	
D557	8-719-404-49	DIODE MA111	
D558	8-719-422-64	DIODE MA8062-M	
D601	8-719-052-12	DIODE 1SS376TE-17	
D603	8-719-976-88	DIODE DTZ3.9B	
		< FERRITE BEAD >	
FB802	1-414-234-11	INDUCTOR, FERRITE BEAD	
FB803	1-414-234-11	INDUCTOR, FERRITE BEAD	
		< IC/RELAY >	
IC501	8-759-448-83	IC uPD78P058GC-933-3B9	
IC502	8-759-452-14	IC MN18P83220S4K	
IC503	8-759-096-16	IC MM1175XF-T1	
IC504	8-759-326-78	IC PST9140NL	
IC505	8-759-168-19	IC TA78L09F-TE12L	
IC506	8-759-234-77	IC TC4S66F	
IC507	8-759-439-67	IC TC7W126FU (TE12R)	
IC509	8-759-360-79	IC TC7W14F (TE12R)	
IC510	8-759-157-21	IC PQ05TZ11	
IC511	8-759-054-12	IC PQ09RA1	
IC513	8-759-084-79	IC TC7S14F (TE85R)	
IC515	8-759-163-78	IC NM24C04EM8-FL63	
IC516	8-759-484-51	IC AT24C08N-10SI-SL383B	
IC517	8-759-344-91	IC RN5VD23AA-TL	
IC603	1-755-188-11	RELAY	
IC802	8-759-337-66	IC HD6413002F16	
IC803	8-759-035-93	IC SC7S32F	
IC804	8-759-486-68	IC MBM29F400BA-70PFTN-MA02	
IC805	8-752-376-15	IC CXK516100TM-70LL-TL	
IC807	8-759-079-52	IC TC74VHC08FS (EL)	
IC808	8-759-360-79	IC TC7W14F (TE12R)	
		< COIL >	
L501	1-411-931-11	COIL, CHOKE (TROIDAL) 340uH	
L503	1-412-955-11	INDUCTOR 22uH	
L504	1-412-955-11	INDUCTOR 22uH	
L506	1-411-931-11	COIL, CHOKE (TROIDAL) 340uH	
L801	1-412-955-11	INDUCTOR 22uH	
L802	1-412-054-21	INDUCTOR CHIP 2.2uH	
L803	1-412-054-21	INDUCTOR CHIP 2.2uH	
		< TRANSISTOR >	
Q501	8-729-025-88	TRANSISTOR 2SB1386-T100-R	
Q502	8-729-421-22	TRANSISTOR UN2211	
Q503	8-729-025-88	TRANSISTOR 2SB1386-T100-R	
Q504	8-729-421-22	TRANSISTOR UN2211	
Q505	8-729-424-08	TRANSISTOR UN2111	
Q506	8-729-421-22	TRANSISTOR UN2211	
Q507	8-729-106-68	TRANSISTOR 2SD1615A-GP	
Q508	8-729-015-11	TRANSISTOR 2SD1802FAST-TL	
Q509	8-729-822-84	TRANSISTOR 2SB1202FAST	
Q510	8-729-421-22	TRANSISTOR UN2211	
Q511	8-729-106-68	TRANSISTOR 2SD1615A-GP	
Q512	8-729-424-08	TRANSISTOR UN2111	
Q513	8-729-421-22	TRANSISTOR UN2211	
Q515	8-729-421-22	TRANSISTOR UN2211	
Q516	8-729-424-08	TRANSISTOR UN2111	
Q517	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q518	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q519	8-729-421-22	TRANSISTOR UN2211	
Q520	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q521	8-729-424-08	TRANSISTOR UN2111	
Q522	8-729-024-31	TRANSISTOR XN1111-TX	
Q525	8-729-421-22	TRANSISTOR UN2211	
Q526	8-729-421-22	TRANSISTOR UN2211	
Q528	8-729-011-95	TRANSISTOR RN-2426	

MAIN

Ref. No.	Part No.	Description				Remark
Q529	8-729-421-22	TRANSISTOR	UN2211			
Q531	8-729-421-22	TRANSISTOR	UN2211			
Q532	8-729-424-08	TRANSISTOR	UN2111			
Q533	8-729-421-22	TRANSISTOR	UN2211			
Q535	8-729-011-95	TRANSISTOR	RN-2426			
Q536	8-729-011-95	TRANSISTOR	RN-2426			
Q537	8-729-027-50	TRANSISTOR	DTC123JKA-T146			
Q538	8-729-027-50	TRANSISTOR	DTC123JKA-T146			
Q541	8-729-230-49	TRANSISTOR	2SC2712-YG			
Q542	8-729-040-17	TRANSISTOR	2SD2164-K			
Q605	8-729-920-21	TRANSISTOR	DTC314TKH04			
Q606	8-729-920-21	TRANSISTOR	DTC314TKH04			
Q607	8-729-424-08	TRANSISTOR	UN2111			
Q609	8-729-421-22	TRANSISTOR	UN2211			
		< RESISTOR/CHIP CONDUCTOR >				
R356	1-216-206-00	METAL CHIP	2.2K	5%	1/8W	
R357	1-216-206-00	METAL CHIP	2.2K	5%	1/8W	
R358	1-216-206-00	METAL CHIP	2.2K	5%	1/8W	
R359	1-216-206-00	METAL CHIP	2.2K	5%	1/8W	
R501	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R502	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R503	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R504	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R505	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R507	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R508	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R509	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R510	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R511	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R512	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R514	1-216-222-00	METAL CHIP	10K	5%	1/8W	
R515	1-216-206-00	METAL CHIP	2.2K	5%	1/8W	
R516	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R517	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R520	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R523	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R524	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	
R525	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R526	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R527	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R528	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R530	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R531	1-216-295-00	CONDUCTOR, CHIP (2012)				
R533	1-216-819-11	METAL CHIP	680	5%	1/16W	
R534	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R535	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R536	1-216-815-11	METAL CHIP	330	5%	1/16W	
R537	1-216-805-11	METAL CHIP	47	5%	1/16W	
R538	1-216-805-11	METAL CHIP	47	5%	1/16W	
R539	1-216-805-11	METAL CHIP	47	5%	1/16W	
R540	1-216-852-11	METAL CHIP	390K	5%	1/16W	
R541	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R542	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R543	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R544	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R547	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R548	1-216-081-00	METAL CHIP	22K	5%	1/10W	

Ref. No.	Part No.	Description				Remark
R550	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R551	1-216-864-11	METAL CHIP	0	5%	1/16W	
R556	1-216-817-11	METAL CHIP	470	5%	1/16W	
R557	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R558	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R559	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R560	1-216-809-11	METAL CHIP	100	5%	1/16W	
R561	1-216-809-11	METAL CHIP	100	5%	1/16W	
R562	1-216-025-00	METAL CHIP	100	5%	1/10W	
R563	1-216-025-00	METAL CHIP	100	5%	1/10W	
R568	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R569	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R570	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R571	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R572	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R573	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R574	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R576	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R577	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R579	1-216-831-11	METAL CHIP	6.8K	5%	1/16W	
R580	1-216-831-11	METAL CHIP	6.8K	5%	1/16W	
R581	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R582	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R583	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R584	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R585	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R588	1-216-017-00	METAL CHIP	47	5%	1/10W	
R590	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R591	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R593	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R630	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R631	1-208-478-11	METAL CHIP	470	2%	1/8W	
R632	1-208-478-11	METAL CHIP	470	2%	1/8W	
R633	1-216-222-00	METAL CHIP	10K	5%	1/8W	
R634	1-216-222-00	METAL CHIP	10K	5%	1/8W	
R635	1-216-017-00	METAL CHIP	47	5%	1/10W	
R801	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R803	1-216-819-11	METAL CHIP	680	5%	1/16W	
R804	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R805	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R808	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R810	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R811	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R819	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R821	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R822	1-216-033-00	METAL CHIP	220	5%	1/10W	
R824	1-216-025-00	METAL CHIP	100	5%	1/10W	
R825	1-216-298-00	METAL CHIP	2.2	5%	1/10W	
R828	1-216-298-00	METAL CHIP	2.2	5%	1/10W	
R829	1-216-298-00	METAL CHIP	2.2	5%	1/10W	
R830	1-216-298-00	METAL CHIP	2.2	5%	1/10W	
R831	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R862	1-216-813-11	METAL CHIP	220	5%	1/16W	
R863	1-216-817-11	METAL CHIP	470	5%	1/16W	
R864	1-216-817-11	METAL CHIP	470	5%	1/16W	
R865	1-216-817-11	METAL CHIP	470	5%	1/16W	
R866	1-216-817-11	METAL CHIP	470	5%	1/16W	
R867	1-216-813-11	METAL CHIP	220	5%	1/16W	

Ref. No.	Part No.	Description			Remark
R868	1-216-817-11	METAL CHIP	470	5%	1/16W
R869	1-216-864-11	METAL CHIP	0	5%	1/16W
R870	1-216-815-11	METAL CHIP	330	5%	1/16W
R871	1-216-817-11	METAL CHIP	470	5%	1/16W
R872	1-216-041-00	METAL CHIP	470	5%	1/10W
R873	1-216-041-00	METAL CHIP	470	5%	1/10W
R874	1-216-097-00	METAL CHIP	100K	5%	1/10W
R875	1-216-097-00	METAL CHIP	100K	5%	1/10W
R876	1-216-097-00	METAL CHIP	100K	5%	1/10W
R882	1-216-809-11	METAL CHIP	100	5%	1/16W
R883	1-216-809-11	METAL CHIP	100	5%	1/16W
R884	1-216-809-11	METAL CHIP	100	5%	1/16W
R885	1-216-849-11	METAL CHIP	220K	5%	1/16W
R889	1-216-809-11	METAL CHIP	100	5%	1/16W
R890	1-216-097-00	METAL CHIP	100K	5%	1/10W
R891	1-216-097-00	METAL CHIP	100K	5%	1/10W
R892	1-216-097-00	METAL CHIP	100K	5%	1/10W
R894	1-216-025-00	METAL CHIP	100	5%	1/10W
R895	1-216-025-00	METAL CHIP	100	5%	1/10W
R896	1-216-817-11	METAL CHIP	470	5%	1/16W
R897	1-216-049-00	METAL CHIP	1K	5%	1/10W
R898	1-216-049-00	METAL CHIP	1K	5%	1/10W
R901	1-216-833-11	METAL CHIP	10K	5%	1/16W
R902	1-216-833-11	METAL CHIP	10K	5%	1/16W
R903	1-216-821-11	METAL CHIP	1K	5%	1/16W
R904	1-216-833-11	METAL CHIP	10K	5%	1/16W
R905	1-216-833-11	METAL CHIP	10K	5%	1/16W
R907	1-216-845-11	METAL CHIP	100K	5%	1/16W
R908	1-216-097-00	METAL CHIP	100K	5%	1/10W
R909	1-216-295-00	CONDUCTOR, CHIP (2012)			
R910	1-216-845-11	METAL CHIP	100K	5%	1/16W
		< NETWORK RESISTOR >			
RA801	1-233-412-11	RES, CHIP NETWORK 1K×4 (3216)			
RA802	1-216-182-00	RES, CHIP NETWORK 220×4 (3216)			
RA803	1-216-182-00	RES, CHIP NETWORK 220×4 (3216)			
RA804	1-216-182-00	RES, CHIP NETWORK 220×4 (3216)			
RA805	1-216-182-00	RES, CHIP NETWORK 220×4 (3216)			
RA806	1-216-182-00	RES, CHIP NETWORK 220×4 (3216)			
RA807	1-216-182-00	RES, CHIP NETWORK 220×4 (3216)			
RA808	1-216-182-00	RES, CHIP NETWORK 220×4 (3216)			
RA809	1-216-182-00	RES, CHIP NETWORK 220×4 (3216)			
RA810	1-216-182-00	RES, CHIP NETWORK 220×4 (3216)			
RA811	1-233-576-11	RES, CHIP NETWORK 100×4			
RA812	1-233-789-11	RES, NETWORK 10K×2 (1608)			
RA813	1-233-412-11	RES, CHIP NETWORK 1K×4 (3216)			
RA814	1-233-412-11	RES, CHIP NETWORK 1K×4 (3216)			
RA815	1-233-810-21	RES, NETWORK 100K×4 (3216)			
RA816	1-216-182-00	RES, CHIP NETWORK 220×4 (3216)			
RA817	1-216-182-00	RES, CHIP NETWORK 220×4 (3216)			
RA818	1-216-182-00	RES, CHIP NETWORK 220×4 (3216)			
RA819	1-216-182-00	RES, CHIP NETWORK 220×4 (3216)			
RA820	1-216-182-00	RES, CHIP NETWORK 220×4 (3216)			
RA821	1-216-182-00	RES, CHIP NETWORK 220×4 (3216)			
RA822	1-216-182-00	RES, CHIP NETWORK 220×4 (3216)			
RA823	1-216-182-00	RES, CHIP NETWORK 220×4 (3216)			
RA826	1-233-412-11	RES, CHIP NETWORK 1K×4 (3216)			

Ref. No.	Part No.	Description			Remark
		< THERMISTOR >			
TH501	1-810-940-11	THERMISTOR, POSITIVE			
		< VIBRATOR >			
X501	1-579-886-21	VIBRATOR, CRYSTAL (32.768kHz)			
X502	1-767-452-11	VIBRATOR, CERAMIC (5MHz)			
X503	1-767-261-21	VIBRATOR, CERAMIC (8MHz)			
X802	1-767-426-21	VIBRATOR, CERAMIC (14.745MHz)			
**********					
*	1-662-634-12	OPEN/CLOSE 1 BOARD			
		**********			
		< CONNECTOR >			
CN21	1-580-789-21	PIN, CONNECTOR (SMD) 6P			
		< PHOTO INTERRUPTER >			
PH21	8-719-988-14	PHOTO REFLECTOR PR-11-B (FRONT PANEL DESORPTION MOTOR ROTATION DETECT)			
		< RESISTOR >			
R21	1-216-049-00	METAL CHIP	1K	5%	1/10W
R22	1-216-097-00	METAL CHIP	100K	5%	1/10W
		< SWITCH >			
S21	1-572-688-11	SWITCH, PUSH (1 KEY) (FRONT PANEL POSITION DET)			
S22	1-572-688-11	SWITCH, PUSH (1 KEY) (FRONT PANEL POSITION DET)			
S23	1-762-621-21	SWITCH, PUSH (1 KEY) (FRONT PANEL POSITION DET)			
**********					
*	1-662-635-12	OPEN/CLOSE 2 BOARD			
		**********			
		< CAPACITOR >			
C11	1-124-589-11	ELECT	47uF	20%	16V
C12	1-124-589-11	ELECT	47uF	20%	16V
C13	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C14	1-163-038-00	CERAMIC CHIP	0.1uF		25V
		< CONNECTOR >			
CN11	1-778-833-11	CONNECTOR 14P			
CN12	1-580-789-21	PIN, CONNECTOR (SMD) 6P			
CN13	1-580-055-21	PIN, CONNECTOR 2P			
CN14	1-580-438-21	CONNECTOR, FPC 4P			
CN15	1-580-438-21	CONNECTOR, FPC 4P			
		< DIODE >			
D11	8-719-422-64	DIODE MA8062-M			
D12	8-719-422-64	DIODE MA8062-M			
D13	8-719-420-14	DIODE MA8082-M			
		< IC >			
IC11	8-759-231-92	IC TA7291P			
		< TRANSISTOR >			
Q11	8-729-900-53	TRANSISTOR DTC114EK			

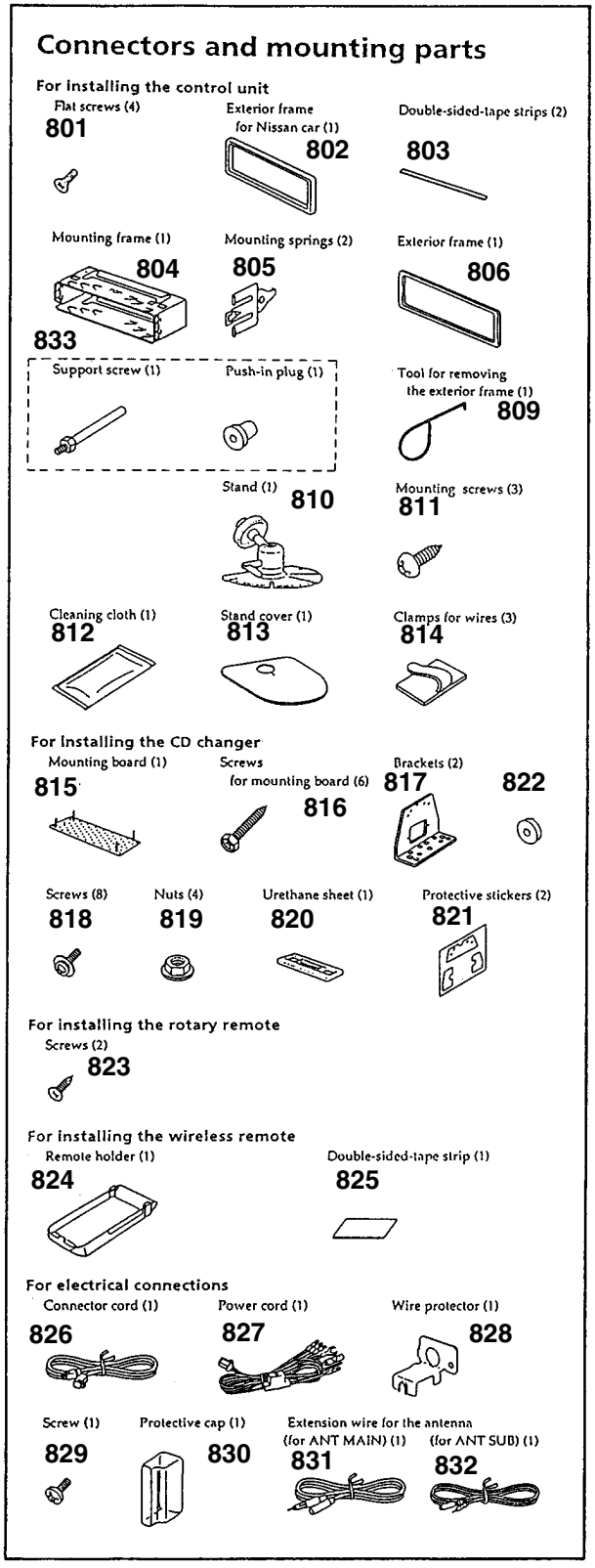
Ref. No.	Part No.	Description			Remark
R704	1-216-045-00	METAL CHIP	680	5%	1/10W
		< SWITCH >			
SW701	1-571-754-31	SWITCH, PUSH (1 KEY) (DISC CHUCKING END DET)			
**********					
*	1-664-111-12	SW BOARD *********			
		< CAPACITOR >			
C801	1-104-823-11	TANTAL. CHIP	47uF	20%	16V
C802	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C803	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C804	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C805	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
		< CONNECTOR >			
CNJ801	1-778-816-21	CONNECTOR, FPC 10P			
CNP801	1-580-055-21	PIN, CONNECTOR 2P			
		< IC >			
IC801	8-759-040-83	IC BA6287F			
		< RESISTOR >			
R805	1-216-089-00	METAL CHIP	47K	5%	1/10W
		< SWITCH >			
SW802	1-692-864-21	SWITCH, PUSH (1 KEY) (MAGAZINE LOCK DET)			
SW803	1-571-754-31	SWITCH, PUSH (1 KEY) (LINEAR SLIDE LEVER POSITION DET)			
SW804	1-571-754-31	SWITCH, PUSH (1 KEY) (MAGAZINE DET)			
**********					
*	1-662-633-12	TRANSLATION BOARD **********			
		< CAPACITOR >			
C51	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C52	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C53	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C54	1-164-156-11	CERAMIC CHIP	0.1uF		25V
		< CONNECTOR >			
CN51	1-774-944-11	SOCKET, CONNECTOR 14P			
CN52	1-774-276-21	SOCKET, CONNECTOR 16P			
CN53	1-770-736-21	SOCKET, CONNECTOR 14P			
CN54	1-770-736-21	SOCKET, CONNECTOR 14P			
		< DIODE >			
D53	8-719-422-64	DIODE MA8062-M			
D54	8-719-422-64	DIODE MA8062-M			
D55	8-719-422-64	DIODE MA8062-M			
		< IC >			
IC51	8-759-079-48	IC TC74VHC02FS (EL)			

Ref. No.	Part No.	Description			Remark
		< RESISTOR >			
R52	1-216-821-11	METAL CHIP	1K	5%	1/16W
R53	1-216-821-11	METAL CHIP	1K	5%	1/16W
R54	1-216-849-11	METAL CHIP	220K	5%	1/16W
R55	1-216-849-11	METAL CHIP	220K	5%	1/16W
R56	1-216-821-11	METAL CHIP	1K	5%	1/16W
R57	1-216-821-11	METAL CHIP	1K	5%	1/16W
		< SWITCH >			
S51	1-570-909-11	SWITCH, TACTIL (REFLOW TYPE) (RESET)			
**********					
*	1-663-877-12	TRANSLATION (CONNECTOR) BOARD **********			
		< CAPACITOR >			
C41	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C42	1-164-156-11	CERAMIC CHIP	0.1uF		25V
		< CONNECTOR >			
CN41	1-564-731-11	PIN, CONNECTOR (SMALL TYPE) 15P			
CN42	1-774-944-11	SOCKET, CONNECTOR 14P			
		< RESISTOR >			
R42	1-216-821-11	METAL CHIP	1K	5%	1/16W
		< SWITCH >			
S41	1-762-805-21	SWITCH, PUSH (1 KEY) (NOSE DET)			
S42	1-570-909-11	SWITCH, TACTIL (REFLOW TYPE) (RESET)			
**********					
*	1-663-878-12	TRANSLATION (HIDE) BOARD **********			
		< CAPACITOR >			
C31	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
		< CONNECTOR >			
CN31	1-770-736-21	SOCKET, CONNECTOR 14P			
CN32	1-774-276-21	SOCKET, CONNECTOR 16P			
* CN33	1-564-717-11	PIN, CONNECTOR (SMALL TYPE) 15P			
		< DIODE >			
D31	8-719-422-64	DIODE MA8062-M			
D32	8-719-422-64	DIODE MA8062-M			
		< IC >			
IC31	8-759-084-79	IC TC7S14F (TE85R)			
		< RESISTOR >			
R31	1-216-821-11	METAL CHIP	1K	5%	1/16W
R32	1-216-821-11	METAL CHIP	1K	5%	1/16W
R33	1-216-845-11	METAL CHIP	100K	5%	1/16W
**********					

Ref. No.	Part No.	Description	Remark
		< SWITCH >	
S41	1-762-805-21	SWITCH, PUSH (1 KEY) (NOSE DET)	
S42	1-570-909-11	SWITCH, TACTIL (REFLOW TYPE) (RESET)	
**********			
*	1-663-878-12	TRANSLATION (HIDE) BOARD **********	
		< CAPACITOR >	
C31	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	
		< CONNECTOR >	
CN31	1-770-736-21	SOCKET, CONNECTOR 14P	
CN32	1-774-276-21	SOCKET, CONNECTOR 16P	
* CN33	1-564-717-11	PIN, CONNECTOR (SMALL TYPE) 15P	
		< DIODE >	
D31	8-719-422-64	DIODE MA8062-M	
D32	8-719-422-64	DIODE MA8062-M	
		< IC >	
IC31	8-759-084-79	IC TC7S14F (TE85R)	
		< RESISTOR >	
R31	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R32	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R33	1-216-845-11	METAL CHIP 100K 5% 1/16W	
**********			
	A-3301-206-A	TUNER (U) ASSY (FM/AM TUNER UNIT) **********	
	1-782-714-11	CORD (WITH CONNECTOR) (ANT) (SUB (FM)/MAIN (FM/AM))	
	7-685-792-09	+PTT 2.6X6, S TITE	
		< CONNECTOR >	
CN101	1-566-001-11	PIN, CONNECTOR (PC BOARD) 4P	
CN605	1-564-722-11	PIN, CONNECTOR (SMALL TYPE) 6P	
CN606	1-564-718-11	PIN, CONNECTOR (SMALL TYPE) 2P	
CN607	1-564-723-11	PIN, CONNECTOR (SMALL TYPE) 7P	
CN609	1-770-629-21	PIN, CONNECTOR 12P	
**********			
		MISCELLANEOUS **********	
58	1-782-287-11	CABLE, FLAT (FWCF) (30 CORE)	
67	1-473-994-11	DC/DC CONVERTER UNIT	
71	1-782-286-11	CABLE, FLAT (FWCF) (8 CORE)	
153	1-664-157-11	SWITCH FLEXIBLE BOARD	
161	1-664-155-11	RF FLEXIBLE BOARD	
162	1-664-156-11	DRIVER FLEXIBLE BOARD	
359	1-777-720-11	CABLE, FLEXIBLE FLAT (4 CORE)	
361	1-777-721-11	CABLE, FLEXIBLE FLAT (8 CORE)	
368	1-643-083-11	MOTOR FLEXIBLE BOARD	
⚠409	8-848-310-11	OPTICAL PICK-UP KSS-400A	
410	X-2625-210-1	SLED MOTOR GEAR ASSY	
411	8-835-456-01	DC MOTOR SSC-02E01S (SPINDLE)	
461	1-801-564-21	LIQUID CRYSTAL DISPLAY MODULE	
464	1-664-508-11	SWITCH FLEXIBLE BOARD	
474	1-777-717-11	CORD (WITH CONNECTOR) (POWER)	
514	1-662-967-11	FLEXIBLE 1 BOARD	
516	1-662-968-11	FLEXIBLE 2 BOARD	
559	A-3301-206-A	TUNER (U) ASSY (FM/AM TUNER UNIT)	
565	1-782-714-11	CORD (WITH CONNECTOR) (ANT) (SUB (FM)/MAIN (FM/AM))	
615	1-782-199-11	CORD (WITH CONNECTOR) (DIN)	
616	1-782-200-11	CORD (WITH CONNECTOR) (HIDE)	
618	1-543-798-11	FILTER, CLAMP (FERRITE CORE)	
F1	1-532-796-11	FUSE (BLADE TYPE) (AUTO FUSE) (5A)	
F501	1-532-731-11	FUSE (3A/32V)	
M1	A-3301-104-A	MOTOR ASSY (FRONT PANEL DESORPTION)	
M501	X-3373-838-1	MOTOR ASSY (ELEVATOR UP/DOWN)	
M502	X-3373-839-1	MOTOR (N) ASSY (DISC LOAD/SAVE)	
M801	X-3373-838-1	MOTOR (P) ASSY (DISC EJECT)	
PRG401	1-454-580-21	SOLENOID, PLUNGER	
SW501	1-571-300-31	SWITCH, ROTARY (HOME/TOP DET)	
**********			
		********** HARDWARE LIST **********	
#1	7-683-405-04	BOLT, HEXAGON SOCKET 3X10	
#2	7-621-773-95	SCREW +B 2.6X6	
#3	7-621-775-10	SCREW +P 2.6X4	
#4	7-683-413-05	BOLT, HEXAGON SOCKET 2.6X8	
#5	7-683-404-04	BOLT, HEXAGON SOCKET 3X8	
#6	7-682-558-09	SCREW +P 4X4	
#7	7-627-850-27	SCREW, PRECISION +P 1.4X3	
#8	7-685-792-09	SCREW +PTT 2.6X6 (S)	
#9	7-685-782-01	SCREW +PTT 2X5 (S)	
#10	7-685-781-09	SCREW +PTT 2X4 (S)	
#11	7-685-852-04	SCREW +BVTT 2X5 (S)	
#12	7-682-545-09	SCREW +P 3X4	
#13	7-685-102-19	SCREW (+BTP) (2X4)	
#14	7-685-780-01	SCREW +PTT 2X3 (S)	
#16	7-624-102-04	STOP RING 1.5, TYPE -E	
#17	7-624-104-04	STOP RING 2.0, TYPE -E	
#18	7-685-103-19	SCREW +P 2X5 TYPE2 NON-SLIT	
#19	7-627-554-37	SCREW, PRECISION +P 2X1.8 TYPE1	
#20	7-621-259-25	SCREW +P 2.6X4	
#21	7-627-553-27	SCREW, PRECISION +P 2X2.5	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le neméro spécifié.

Ref. No.	Part No.	Description	Remark
#22	7-627-553-37	SCREW, PRECISION +P 2X3	
#23	7-627-852-17	SCREW, PRECISION +P 1.7X4 TYPE3	
#24	7-628-253-15	SCREW +PS 2X5	
#25	7-627-553-68	SCREW, PRECISION +P 2X6	
#26	7-685-102-21	SCREW +P 2X4 TYPE2	
#27	7-627-556-78	SCREW, PRECISION +P 2.6X6 TYPE1	
#28	7-685-794-09	SCREW +PTT 2.6X10 (S)	
#29	7-621-772-18	SCREW +B 2X4	
#30	7-627-553-18	SCREW, PRECISION +P 2X2	
#32	7-621-770-67	SCREW +B 2.6X6	
#33	7-685-146-11	SCREW +P 3X8 TYPE2 NON-SLIT	
#34	7-621-773-87	SCREW +B 2.6X10	
#35	7-621-772-10	SCREW +B 2X4	
#36	7-621-255-15	SCREW +P 2X3	
**********			
		ACCESSORIES	
		**********	
	1-475-385-11	REMOCON, WIRELESS (RM-X67)	
	3-014-560-01	BINDER, INSTRUCTION MANUAL	
	3-858-942-11	MANUAL, INSTRUCTION (ENGLISH)	
	3-858-943-11	MANUAL, INSTRUCTION, INSTALL (ENGLISH)	
	3-859-709-11	VOLUME, EXPLANATION	
	1-473-967-12	ROTARY COMMANDER (RM-X66) (including bracket)	
	9-939-690-01	ROTARY COMMANDER (BRACKET) (for RM-X66)	
	9-939-845-01	COVER, BATTERY CASE (for RM-X67)	
	X-3373-405-1	MAGAZINE (XES) ASSY	
**********			
		MOUNTING HARDWARE	
		**********	
801	3-367-968-01	SCREW (M5X8)	
* 802	3-370-687-01	SPACER (N)	
803	3-372-142-03	CUSHION (3)	
* 804	3-916-161-11	FRAME, FITTING	
805	3-909-685-01	SPRING (FITTING)	
806	3-909-686-11	COLLAR	
809	3-702-658-01	TOOL (REMOVE)	
810	X-3370-886-1	STAND ASSY	
811	7-685-161-01	SCREW +P 4X12 TYPE4	
812	not supplied		
813	3-939-604-01	COVER (STAND)	
814	3-389-594-01	CLAMP, CORD	
815	X-3373-408-1	BRACKET ASSY	
816	3-302-126-01	SCREW, TAPPING (DIA. 5X20)	
817	3-008-210-01	BRACKET (ES)	
818	7-682-964-09	SCREW +PSW 4X14	
819	3-013-529-01	NUT (UPS-F.M8)	
820	3-013-207-01	SHEET (FITTING)	
821	3-014-510-01	SHEET (BRACKET ES)	
822	3-013-797-01	WASHER (M8 STAINLESS COAT)	
823	7-685-248-14	SCREW +KTP 3X12 TYPE4	
824	3-012-265-01	HOLDER	
825	3-937-921-01	TAPE (HOLDER)	
826	1-777-716-11	CORD, CONNECTION (BUS)	
827	1-777-717-11	CORD (WITH CONNECTOR) (POWER)	
828	3-012-442-01	BRACKET (ROTARY COMMANDER)	
829	7-685-792-09	SCREW +PTT 2.6X6 (S)	
830	3-013-264-01	COVER, 3P TERMINAL TABLE	
831	1-782-274-11	CORD, ANTENNA (MAIN)	
832	1-782-275-11	CORD, ANTENNA (SUB)	
833	X-3366-405-1	SCREW ASSY (EXP), FITTING	



MEMO

REVISION HISTORY

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Ver.	Date	Description of Revision
1.1	2001.09	Change of Part No. for ROTARY COMMANDER (RM-X66) (SPM-01020)
1.0	1997.07	Correction-1
	1997.06	New